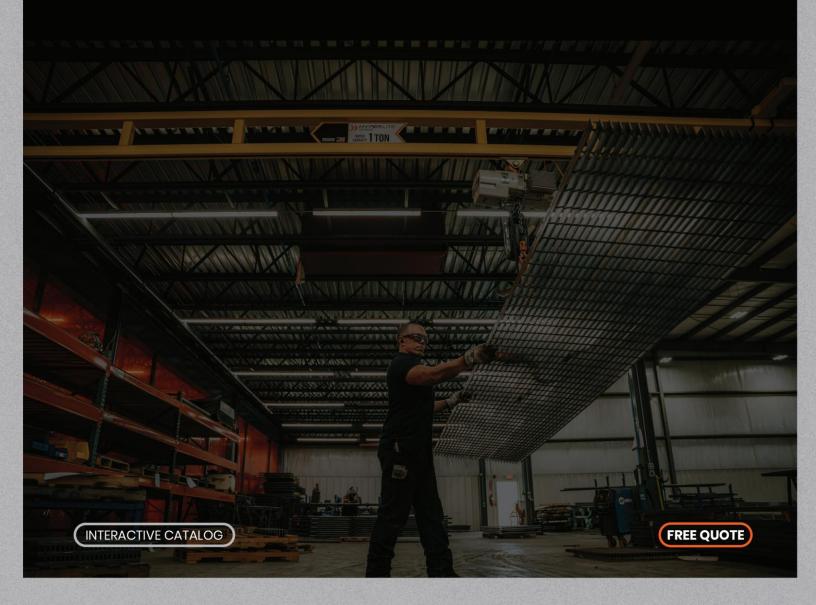


PRODUCT CATALOG

A COMPREHENSIVE LIST





Welcome Page

Welcome to the PWI Product Catalog!

Step into a realm of superior engineering and innovation with PWI, your foremost destination for high-quality solutions in Nappanee, Indiana. With a steadfast dedication to excellence and customer satisfaction, PWI stands as a beacon of reliability in the industry.

As you explore our catalog, you'll encounter a diverse array of products meticulously crafted to elevate your operations. From robust Cranes and innovative BTH Devices to versatile Mezzanines and essential Fall Protection equipment, we offer a comprehensive selection to fulfill your needs.

Quality is the cornerstone of our ethos at PWI. Each product undergoes stringent testing and adheres to the strictest standards, ensuring unparalleled performance and longevity.

Whether you're enhancing industrial efficiency, optimizing workspace utilization, or ensuring safety at heights, our catalog has you covered. Dive into our main product categories:

- Overhead Cranes, including advanced BTH Devices for enhanced functionality
- Mezzanines, providing customizable solutions for expanding workspace
- Fall Protection equipment, safeguarding personnel in elevated environments

Count on our team of experts to provide unparalleled support and guidance. Whether you have inquiries or require assistance, we're here to assist you every step of the way.

Thank you for entrusting PWI with your needs. We're excited to embark on this journey with you, delivering exceptional products and service that exceed your expectations.

Welcome to excellence. Welcome to PWI.



P: (574) 646-2015

Who We Are



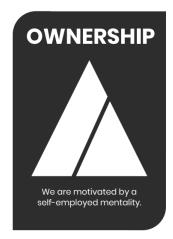
PWI Mission Statement

TO EMPOWER MANUFACTURERS WITH INNOVATIVE MATERIAL HANDLING SOLUTIONS, GIVING THEM FULL CONTROL OF EFFICIENCY AND SAFETY IN THEIR WORKSPACE.

PWI Core Values















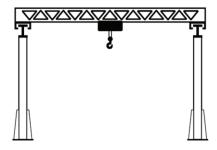




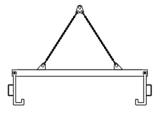




PRODUCT CATEGORIES

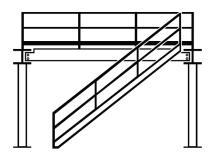


CRANESGet more done with less effort.



LIFTING DEVICES

Handle your material
easily and safely



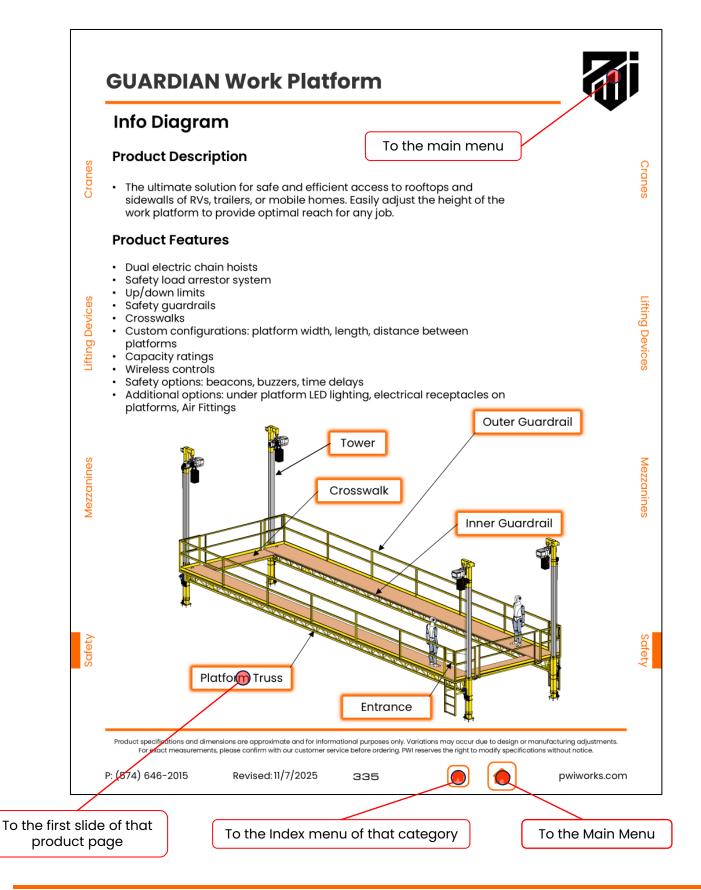
MEZZANINESManufacturing space for a fraction of new construction.



CONQUER YOUR SPACE

Navigating The Catalog







P: (574) 646-2015

Cranes Index



- Crane Info Diagram
- Jib Cranes
- Gantry Cranes
- Monorails
- Workstation Bridge Cranes
- Motorized Bridge Cranes
- <u>Custom Crane Solutions</u>
- Crane Components

Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments.

For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.



Revised: 11/7/2025



Wall/Column Mounted

Wall/Column Cantilever



Workstation



Free Standing with Foundation

Free Standing Base Plate







Free Standing Foundation

















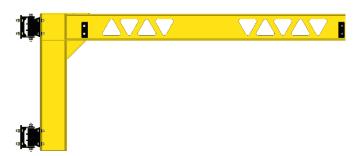
Wall Mounted Cantilever

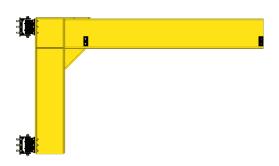
Product Description

- Jib crane with 180° rotation
- Product Code: JBWMC
- Interactive 3D Viewer

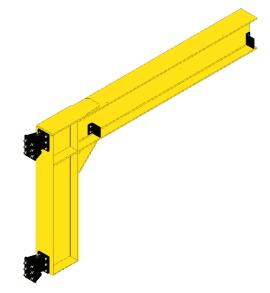
Product Features

- Ultralite and standard W-beam
- Ultralite Capacity: 500 lbs, 1,000 lbs, 1 Ton, 2 Ton, 3 Ton
- Heavy Duty Capacity: 5 ton
- Span: 8'-20'
- W-beam (trolley travel)









Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.

8







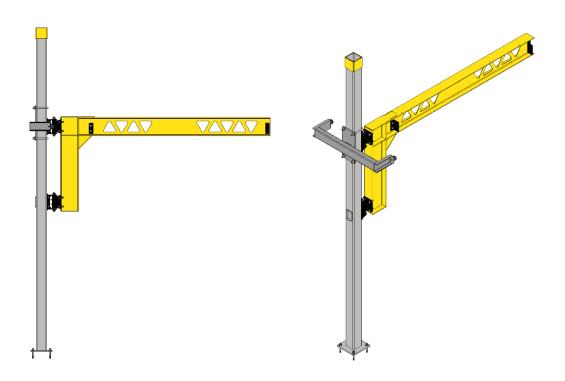
Column Mounted Cantilever

Product Description

- Jib crane with 180° rotation
- Product Code: JBCMC

Product Features

- Ultralite beam configuration
- Capacity: 500 lbs, 1,000 lbs, 1 Ton, 2 Ton, 3 Ton
- Span: 8'-20'
- W-beam (trolley travel)







Floor Mast Cantilever

riodi made darienov

Product Description

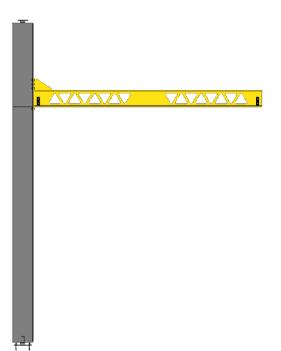
- Jib crane with 360° rotation
- · Foundationless design
- Product Code: JBFMC

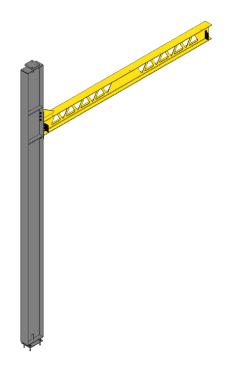
Product Features

- Ultralite beam configuration
- · Full cantilever or drop cantilever design
- Capacity: 500 lbs, 1,000 lbs, 1 Ton, 2 Ton, 3 Ton
- Span: 8'-20'

Cranes

W-beam (trolley travel)













Wall Mounted Tie Rod

Product Description

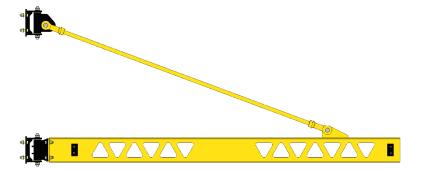
- Jib crane with 180° rotation
- Product Code: JBWTR

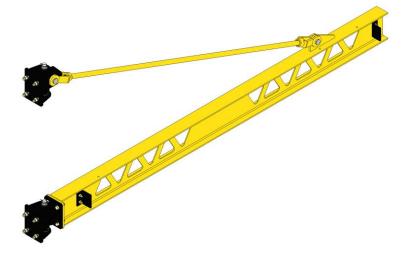
Product Features

- Ultralite beam configuration
- Capacity: 500 lbs, 1,000 lbs, 1 Ton, 2 Ton, 3 Ton
- Span: 8'-30'

Lifting Devices

W-beam (trolley travel)











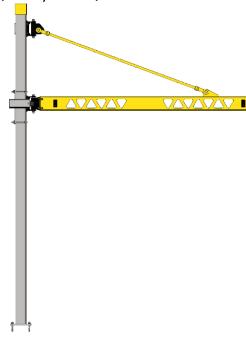
Column Mounted Tie Rod

Product Description

- Jib crane with 180° rotation
- Product Code: JBCTR

Product Features

- Ultralite beam configuration
- Capacity: 500 lbs, 1,000 lbs, 1 Ton, 2 Ton, 3 Ton
- Span: 8'-30'
- · W-beam (trolley travel)









HYPERLITE Jib Crane



Workstation Cantilever

Product Description

- Jib crane with 180° rotation
- Enclosed track design for improved ergonomics
- Product Code: JBWSC

>>

Product Features

- · Hyperlite truss configuration
- Capacity: 250 lbs, 500 lbs, 1,000 lbs
- Span: 8'-16'
- Ergonomic 300/400 series enclosed track (trolley travel)

Capacity		
250		
500	lbs.	
1,000		





Ti

Freestanding Foundationless

Product Description

- Jib crane with 360° rotation
- · Enclosed track design with improved ergonomics
- · Foundationless design

Product Features

- Hyperlite truss configuration
- Ergonomic 300/400 series enclosed track (trolley travel)
- · Pipe column
- Hub height: 8'-12'

Capacit	Span	
250		8' - 16'
500	lbs.	8' - 16'
1,000		8' - 14'





Capacit	y	Span	Continuous Slab
250		8' - 9'	6' x 6'
230		9' - 16'	8' x 8'
		8' - 9'	7' x 7'
500	lbs.	9' - 14'	8' x 8'
		14' - 16'	10' x 10'
1 000		8' - 9'	9' x 9'
1,000		9' - 14'	10' x 10'





Freestanding Base Plate

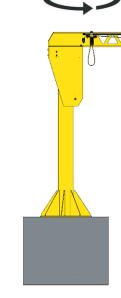
reestarialing baser lat

Product Description

- Jib crane with 360° rotation
- Design requires foundation

Product Features

- UltraLite Beam
- W-beam (trolley travel)
- Pipe column
- Pipe head weldment
- · This design requires one concrete pour
- · Includes large diameter base plate with embedded anchor rods



Сара	Span	
500	lbs.	16' - 20'
1,000	IDS.	14' - 20'
1		
2	tons	8' - 20'
3		





Freestanding Sub-Foundation

J

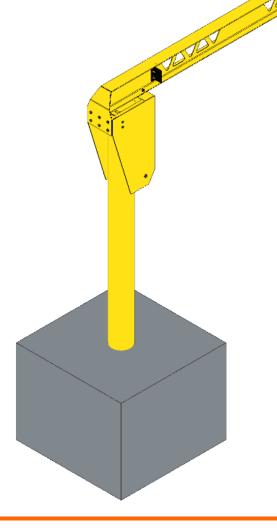
Product Description

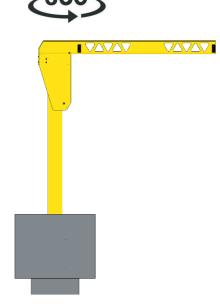
- Jib crane with 360° rotation
- Design requires foundation

Product Features

- UltraLite Beam
- W-beam (trolley travel)
- Pipe column
- Pipe head weldment

This design requires two concrete pours





Сара	Span	
500	lbs.	16' - 20'
1,000	ibs.	14' - 20'
1		
2	tons	8' - 20'
3		





ULTRALITE Fixed Height Gantry Crane



Product Description

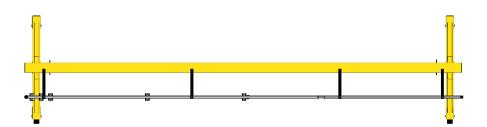
- Manual gantry cranes are built with heavy duty casters for mobility.
- The Ultralite series gantry offers an improved ergonomic experience, combining the strength of structural steel construction while reducing the weight of the crane.

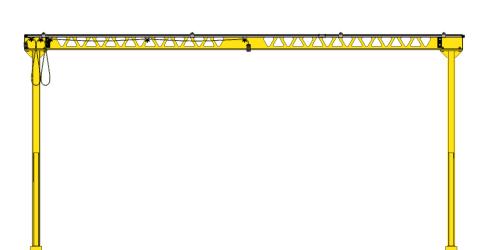
Product Features

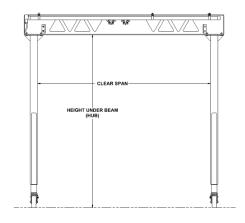
- Capacity: 500 lbs, 1,000 lbs, 1 Ton, 2 Ton, 3 Ton, 5 Ton
- Clear Span: 10'-30'
- Height Under Beam: 8'-18'
- Caster Options:

Lifting Devices

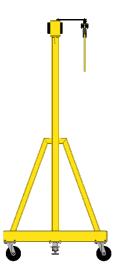
- Poly
- Poly on Iron
- Steel
- Includes floor stop to limit caster motion















ULTRALITE Telescoping Gantry Crane



Product Description

- · Manual gantry cranes are built with heavy duty casters for mobility.
- The Ultralite series gantry offers an improved ergonomic experience, combining the strength of structural steel construction while reducing the weight of the crane.
- Adjust HUB in 12" increments

Product Features

- Capacity: 500 lbs, 1,000 lbs, 1 Ton, 2 Ton, 3 Ton, 5 Ton
- Span: 10'-30'
- Height Under Beam (HUB): 8'-12', 12'-16', 14'-18'
- Caster Options:
 - Poly
 - Poly on Iron
 - Steel
- Includes floor stop to limit caster motion









Cranes

INCOMMAND Gantry Crane



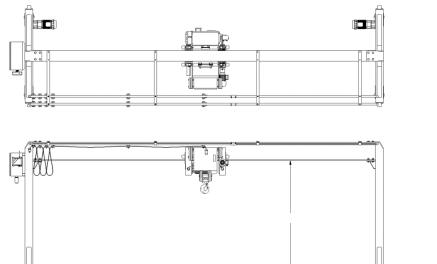
Light Duty

Product Description

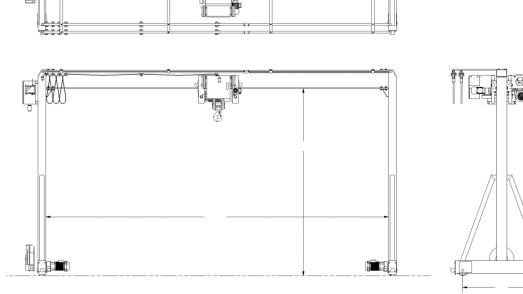
· Gantry crane equipped with motorized end trucks and floor track system to quickly and efficiently change workspace locations.

Product Features

- Capacity: 500 lbs, 1,000 lbs, 1 Ton, 2 Ton, 3 Ton, 5 Ton
- Span: 5'-60'
- HUB Height: 8'-14'
- **Tube Columns**
- Polyurethane Coating Bonded to Geared Wheels 95A Durometer
- Tracking: Press and hold the button below the E stop to reverse the direction of the drive motor on the opposite side allowing you to correct the tracking direction of the gantry crane.
- Includes cord reel
- Floor Compatibility: Concrete, Floor Track











Lifting Devices

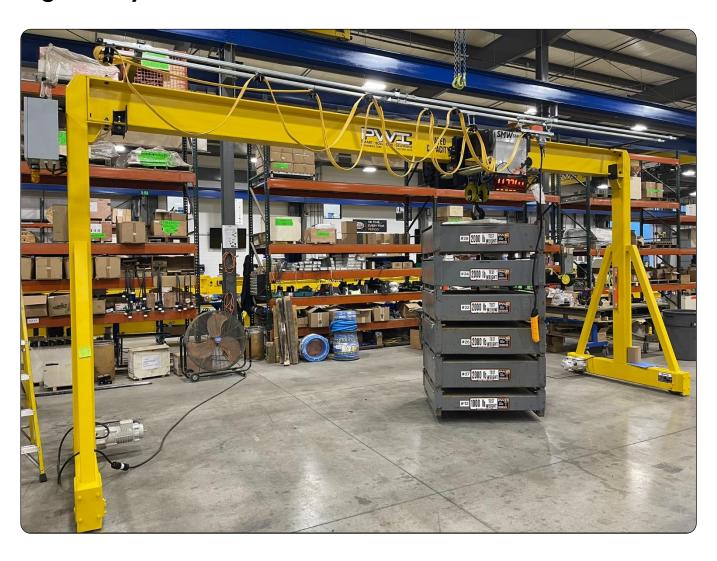
Mezzanines

Cranes

INCOMMAND **Gantry Crane**

Ti

Light Duty







INCOMMAND Gantry Crane



Heavy Duty

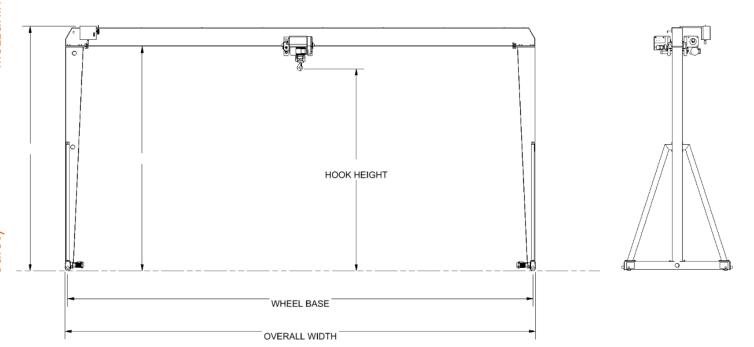
Product Description

 Gantry crane equipped with motorized end trucks and floor track system to quickly and efficiently change workspace locations.

Product Features

- Capacity: 5 Ton, 6 Ton, 7.5 Ton, 8 Ton, 10 Ton, 12.5 Ton, 15 Ton
- Span: 5'-60'
- HUB Height: 10'-30'
- Tapered Box Columns
- Polyurethane Coating Bonded to Geared Wheels 95A Durometer
- Tracking: Press and hold the button below the E stop to reverse the direction of the drive motor on the opposite side allowing you to correct the tracking direction of the gantry crane.
- Includes Cord Reel and Encoder
- Floor Compatibility: Poly on Concrete, Grooved Wheel on Floor Track





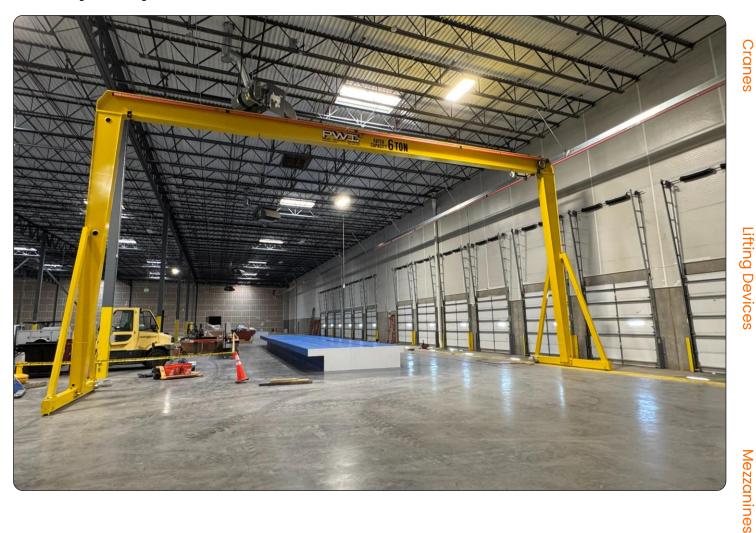




INCOMMAND **Gantry Crane**



Heavy Duty







Lifting Devices

Ceiling Mounted Curved Monorail

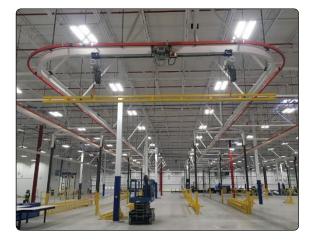


Product Description

- Curved loop monorails provide an efficient workflow in assembly lines or other application where you need parts to return.
- The ceiling mounted option provides the ability to keep the structure out of the workspace below.

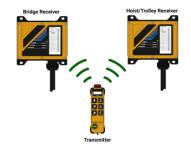
Product Features

- Capacity: 1 Ton, 2 Ton, 3 Ton, 5 Ton, 6 Ton, 7.5 Ton, 8 Ton, 10 Ton
- · Monorail wire rope hoist or chain hoists
- · Remote Control













Workstation Bridge Cranes Index



- AERO Series Work Cell Cranes
- ULTRALITE Series Manual Cranes
- HYPERLITE Series Manual Cranes





AERO Work Cell Crane



Product Description

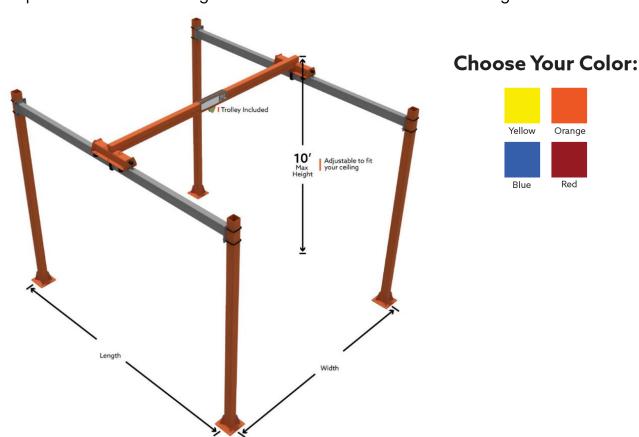
- The Aero series crane is PWI's most versatile freestanding crane offering.
- By utilizing bolted connections for the entire assembly, this crane is built with the DIYer in mind.
- Don't let high-capacity name fool you though, the garage series crane can easily adapt to any high-capacity workspace as well. We offer a variety of configurations to meet any work cell size.

Product Features

- Capacity: 1,000 lbs
- Height: 10'

Lifting Devices

- Configurations (width x length):
 - 8'x12', 8'x16'
 - 10'x12', 10'x16', 10'x20'
 - 12'x16, 12'x20', 12'x24'
 - 16'x20', 16'x24'
- Column are designed with bolted connections to raise or lower as needed for each workspace. Columns are designed to be trimmed to reduce overall height if needed.



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Orange

Red

ULTRALITE Bridge Crane



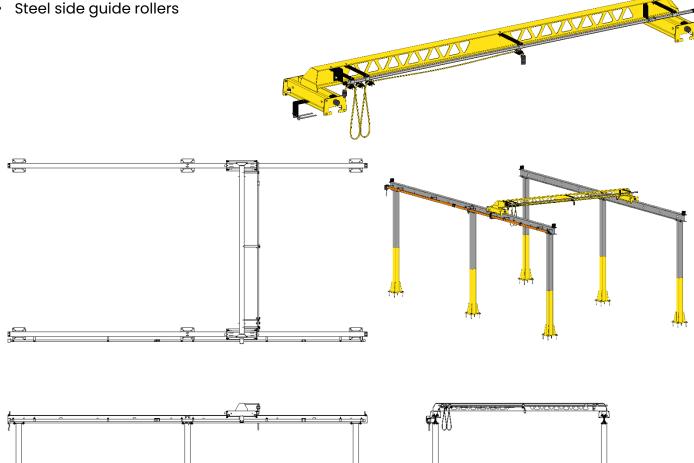
Freestanding Top Runner

Product Description

- Freestanding design offering maximum hook height and an efficient install.
- The Ultralite series bridge crane offers an improved ergonomic experience, combining the strength of structural steel construction while reducing the weight of the crane.

Product Features

- Capacity: 500 lbs, 1,000 lbs, 1 Ton, 2 Ton, 3 Ton
- Span: 5'-40'
- End truck wheels include ball bearings and acetal plastic tread for smooth operation.







Lifting Devices

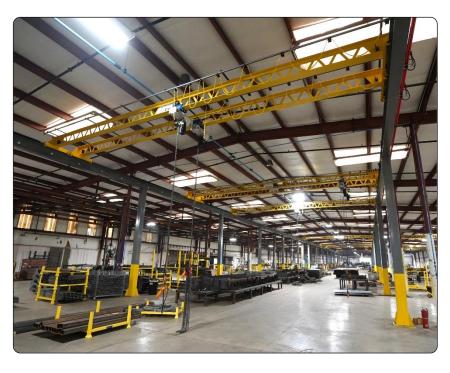
Mezzanines

ULTRALITE Bridge Crane



Freestanding Top Runner









ULTRALITE Bridge Crane



Header Mounted Top Runner

Product Description

- Freestanding design specifically for users needing columns to be located strategically out of the workspace.
- The Ultralite series bridge crane offers an improved ergonomic experience, combining the strength of structural steel construction while reducing the weight of the crane.

Product Features

- Capacity: 500 lbs, 1,000 lbs 1 Ton, 2 Ton, 3 Ton
- Span: 5'-40'
- Max cantilever: 48"











ULTRALITE Bridge Crane



Ceiling Mounted Under-Running

Product Description

- Ceiling mounted design specifically for users that have a PEMB that is already built to withstand the loads the of the crane.
- The Ultralite series bridge crane offers an improved ergonomic experience, combining the strength of structural steel construction while reducing the weight of the crane.

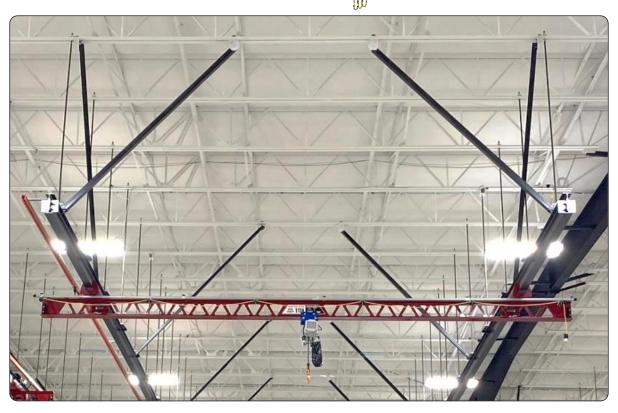
Product Features

- Capacity: 500 lbs, 1,000 lbs 1 Ton, 2 Ton, 3 Ton
- Span: 5'-40'

Lifting Devices

• Max cantilever: 48"









Cranes

HYPERLITE Bridge Crane



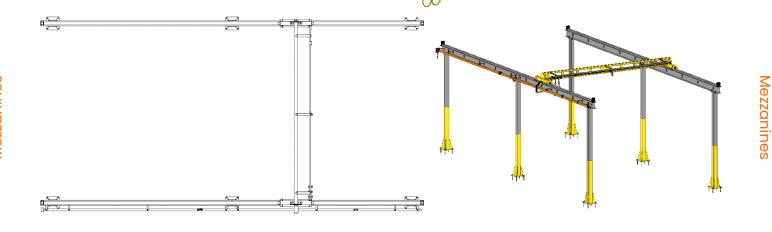
Freestanding Top Running

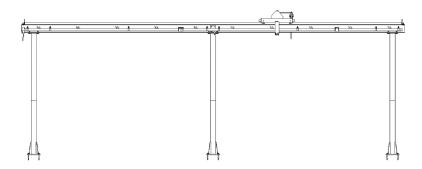
Product Description

- · Freestanding design offering maximum hook height and an efficient install.
- Built with an enclosed track bridge and added "guide tube" on the runway system, the Hyperlite series manual bridge crane system outperforms all others.
- The combination of these two features provides even greater performance for manual applications.
- We highly recommend this system for users that are using their cranes at high cycle rates.

Product Features

- Capacity: 250 lbs, 500 lbs, 1,000 lbs, 1 Ton, 2 Ton
- Span: 5'-30'
- · Top running Hyperlite end trucks
- Polymer side guide rollers
- Electric chain or chain Hoist











HYPERLITE Bridge Crane



Ceiling Mounted Under-Running

Product Description

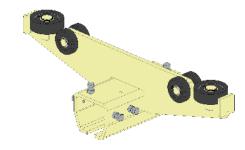
- The ceiling mounted option provides the user the ability to keep the structure out of the workspace below.
- Operators can lift and move loads quick and ergonomically.

Product Features

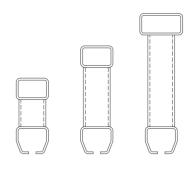
- Capacity: 500 lbs, 1,000 lbs, 1 Ton
- Span: 5'-19'

Lifting Devices

ETK End Trucks













HYPERLITE Series Trolley Options



- S300-EMT-1000
 - 300 Series Enclosed Track
 - 1,000 lb. capacity

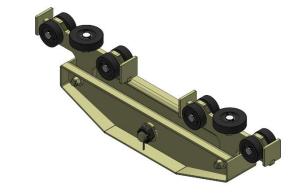


- \$400-EMT-2000
 - · 400 Series Enclosed Track
 - · 2,000 lb. capacity





- 400 Series Enclosed Track
- · 4,000 lb. capacity











Motorized Bridge Cranes Index



- **INCOMMAND Top Runner Cranes**
- **INCOMMAND Top Running Motorized Cranes**
- **INCOMMAND Under Running Motorized Cranes**







Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments.

Crane Info Diagram

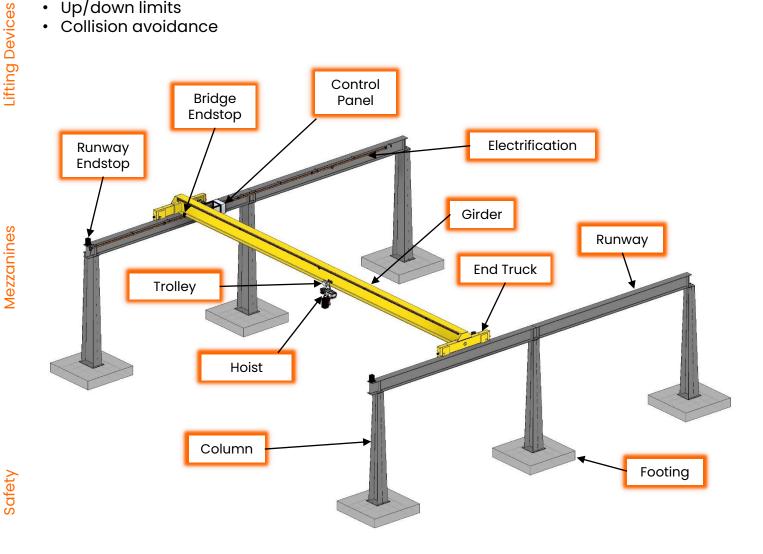


Product Description

Overhead Bridge Cranes are typical for heavy-duty material handling needs. An overhead bridge crane can improve safety while also increasing efficiency. Our team will help you design your crane to meet your manufacturing workflow.

Product Features

- Capacity ratings
- Wireless controls
- Safety options include beacons, buzzers, time delays
- Multiple hoists on one Girder
- Up/down limits
- Collision avoidance









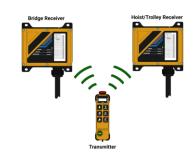
INCOMMAND Top Runner Crane System



Freestanding Unbraced

Product Description

 The Motorized Top Runner Freestanding Unbraced Crane System is great option for applications where the operator only needs light capacity, but still requires motorized girder travel. This system can be installed virtually anywhere because the pre-engineered columns are able to withstand the moment forces without being braced to the structure around them.



Product Features

- Capacity: 1,000 lbs, 1 Ton, 2 Ton, 3 Ton
- Bridge Span: 10'- 40'
- Max Overall Height: 23'
- Column Spacing: 10'- 30'
- Column Options: Gusseted Tube, Tapered Beam
- · Footers required at higher spans & capacities
- Minimum Concrete Thickness: 6"
- Monorail wire rope hoist or chain hoists
- Radio Controlled
- · Girder to end truck mounting options:
 - Riser
- Top Mounted
- Starke SCT end trucks
- End truck wheels include ball bearings
- Runway web stiffeners not required







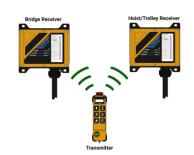
INCOMMAND Top Runner Crane System



Freestanding Braced

Product Description

 The Motorized Top Runner Freestanding Braced Crane System is great option for applications where the operator only needs light capacity but still requires motorized girder travel. The placement of this system must be planned in conjunction with the surrounding structure because the crane columns are dependent on bracing to that structure.

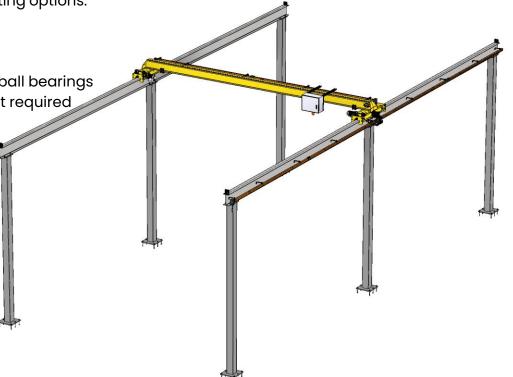


Product Features

- Capacity: 1,000 lbs, 1 Ton, 2 Ton, 3 Ton
- Bridge Span: 10'- 40'
- Max Overall Height: 23'
- Column Spacing: 10'- 30'
- Column Options: Tube, W Beam
- · Footers required at higher spans & capacities
- Minimum Concrete Thickness: 6"
- Monorail wire rope hoist or chain hoists
- · Radio Controlled
- Girder to end truck mounting options:



- Top Mounted
- · Starke SCT end trucks
- End truck wheels include ball bearings
- · Runway web stiffeners not required







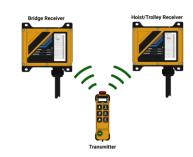
INCOMMAND Top Running Bridge Crane



Single Girder

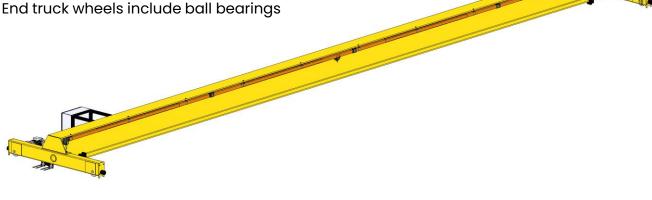
Product Description

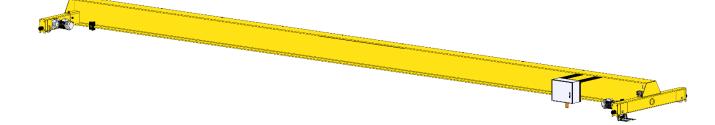
Capable of much higher capacities and spans than your average manual crane. The motorized top running single girder crane is one of the most popular overhead cranes in the industry.



Product Features

- Capacity: 1 Ton, 2 Ton, 3 Ton, 5 Ton, 6 Ton, 7.5 Ton, 8 Ton, 10 Ton, 15 Ton
- Span: 10'-70'
- Starke STT end trucks
- Monorail wire rope hoist or chain hoists
- Radio Controlled
- Girder to end truck mounting options:
 - Riser
 - **Top Mounted**
 - **Fully Coped**









Mezzanines

Single Girder



INCOMMAND Top Running Bridge Crane







INCOMMAND Top Running Bridge Crane

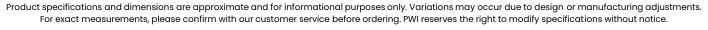


Single Girder With Riser

Product Description

• The riser option is an upgrade available for improved hook height on systems where the runway beams are required to be set at a lower level.









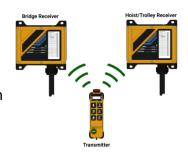
INCOMMAND Top Running Bridge Crane



Triple Girder

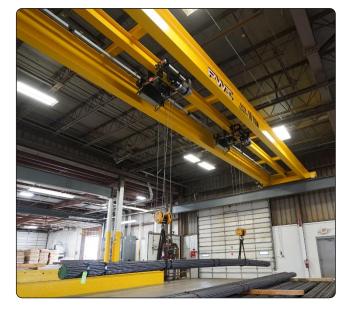
Product Description

 Bridge crane design that offers an increased span and capacity range over the standard single girder option at a lower price than typical box girders.



Product Features

- Capacity: 2T, 3T, 5T, 7.5T, 10T, 15T
- Span: 20'-70'
- · Starke STT end trucks
- · Wire rope hoist
- Radio Controlled
- Girder to end truck mounting options:
 - Top Mounted
 - Partial Cope
 - Full Cope
 - Drop Cope
 - · Drop Step Cope









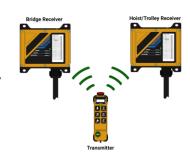
INCOMMAND Top Running Bridge Crane



Double Girder with Underhung Trolley

Product Description

 This version uses double girders and a custom underhung trolley assembly to provide the maximum amount of clearance above and below the bridge crane.



Product Features

- Capacity: 1 Ton, 2 Ton, 3 Ton, 5 Ton, 6 Ton, 7.5 Ton, 8 Ton, 10 Ton
- Span: 10'-70'
- Starke STT end trucks for bridge motion
- · Starke SCU end trucks for trolley motion
- Base Mount wire rope hoist or chain hoists
- · Radio Controlled





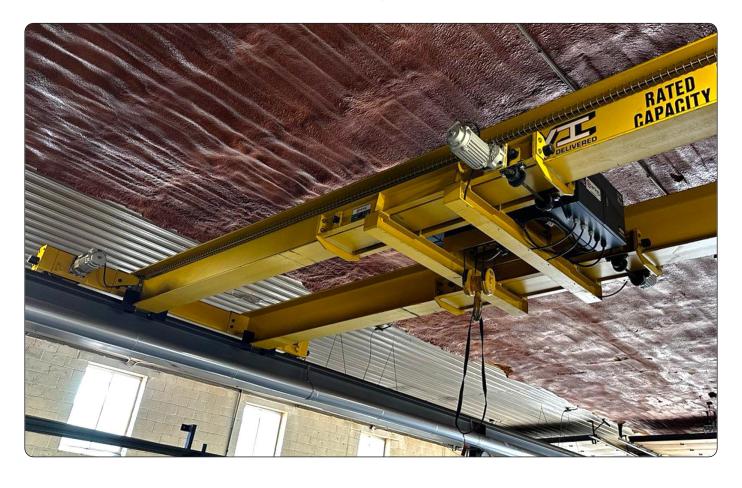


Mezzanines

INCOMMAND Top Running Bridge Crane



Double Girder with Underhung Trolley







INCOMMAND Top Running Bridge Crane



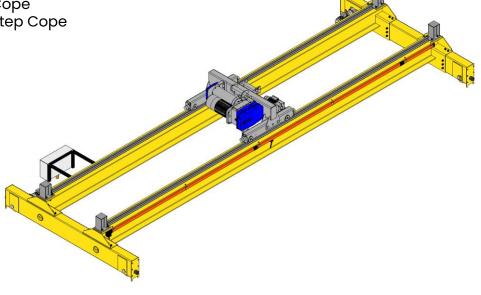
Double Girder

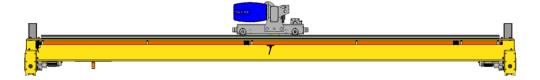
Product Description

- Bridge crane rolls on ASCE crane rail runway
- Typically used for heavy duty and/or long span applications

Product Features

- Capacity: 7.5 Ton, 10 Ton, 15 Ton, 20 Ton
- Span: 20'-110'
- Starke STT end trucks
- Top running wire rope hoist
- · Radio Controlled
- · Girder to end truck mounting options:
 - Top Mounted
 - Partial Cope
 - Full Cope
 - Drop CopeDrop Step Cope











Cranes

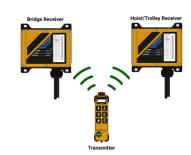
INCOMMAND Top Running Bridge Crane



Single MonoBox Girder

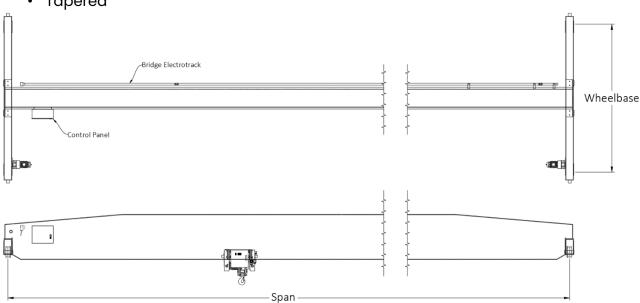
Product Description

- The monobox design is commonly used when a standard single girder or double girder fabricated using WF beams hits its limit on capacity and/or span.
- Designed to Class D regulations.



Product Features

- Capacity: 1 Ton, 2 Ton, 3 Ton, 5 Ton, 6 Ton, 7.5 Ton, 8 Ton, 10 Ton, 12.5 Ton, 15 Ton
- Span: 20'-160'
- Starke STT end trucks
- Mono Box
- Monorail wire rope hoist
- Radio Controlled
- Girder to end truck mounting options:
 - **Top Mounted**
 - **Partial Cope**
 - Full Cope
 - **Drop Cope**
 - **Drop Step Cope**
 - **Tapered**







INCOMMAND Top Running Bridge Crane



Double MonoBox Girder

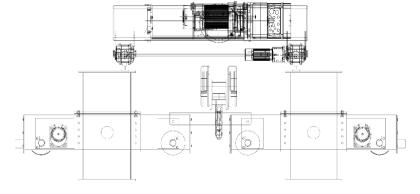
Product Description

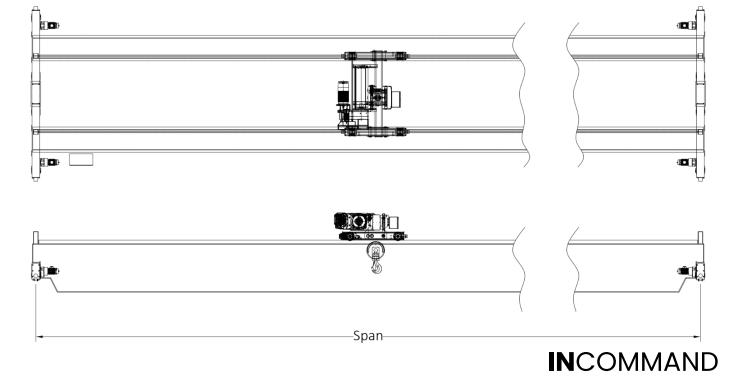
• Design that uses (2) monobox girders to meet the highest capacity and span requirements in the industry.

Bridge Receiver Hoist/Trolley Receiver

Product Features

- Capacity: 7.5 Ton, 10 Ton, 15 Ton, 20 Ton, 25 Ton, 30 Ton, 40 Ton, 50 Ton
- Span: 20'-160'
- · Starke STT end trucks
- Double Box
- Top running wire rope hoist
- Radio Controlled
- Girder to end truck mounting options:
 - Top Mounted
 - Partial Cope
 - Full Cope
 - Drop Cope
 - · Drop Step Cope









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Top Running Bridge Crane Spec Sheet

	Company:		
Р	roject Number:		
	Date:		
	Specifications	Details:	Comments
1	Span		
2	Capacity		
3	CMAA Class		
4	Crane Weight		
5	Crane Type		
6	Number of Hoists on Crane		
7	Bridge Speed		
8	Bridge Collision Avoidance		
9	Trolley Speed		
10	Shaw-Box SK 10 Ton, 20' lift		
11	Max Trolley Flange Width		
12	Hoist Lift Speed (wire rope)		
13	Hoist and Trolley Weight		
14	Girder Connection		
15	Radio Remote Control		
16	Festoon Pendant control		
17	Bridge Electrification		
18	Max Wheel Loading		
19	End Truck Wheel Diameter		
20	End Truck Wheel Base		
21	Runway Rails		
22	Runway Electrification		
23	Mainline Disconnect		
24	Crane Power Supply Voltage		
25			
26			
27			
28			

INCOMMAND

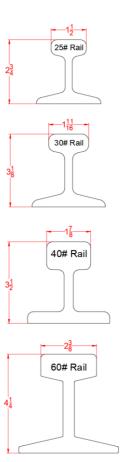






Top Running Crane Rail Specs

- 1. Rail Splices:
 - a. SPLICE JOINT BOLT ASSEMBLIES
 - b. There is no specific torque requirement for rail splice bolts, but standard practice would dictate the bolts be torqued to a proof load of 70% of the bolt tensile strength.
 - c. Note as shown in figure 2 that the rail splice bolts should be inserted from alternating sides of the splice to aid in equal distribution of the tightening forces.
 - d. Proper splice joints are designed to wedge between the angled underside of the railhead and the angled top of the rail flange as shown in figure 3. The splice joint should not bear against the web of the rail and a drilled flat bar is not an acceptable alternative.
 - e. splice bar is either 12 or 13 degrees depending on the rail size. Both the rail and splice bar have relatively rough surfaces when new and the joints wear in as the runway system is operated.
 - f. Because of the geometry and wear, bolt pretension load can be lost very quickly. This condition can be aggravated when the rail is mounted on a crane rail pad or the rail joint falls between discontinuous support pedestals. Because of this ASTM A325 or ASTM A490 grade bolts should be specified, and splice bolts should be retightened after 30 days of use and checked every three months thereafter. On discontinuous supported systems special sole plates should be positioned to support the rail joint whenever feasible.













Top Running Crane Rail Specs

TYPES OF SPLICES

Mechanical splices are used to connect one length of rail to the next. Generally, mechanical splices are more popular on smaller rail sizes, such as ASCE sections, or tee rails and should only be used on lighter duty applications not high duty cycle production cranes. Of those joints that are mechanically fastened, most use the splice bar type of plates without any toe, instead of partial or full toe plates.

The term "splice bar" actually refers to only one type of connector but frequently is confused with other types. The drawings shown in figure 1 provide clarification on the proper terminology for each type of connector bar. Angle bars are also sometimes referred to as "full-toe joint bars", and "joint bars" are

sometimes called "short toe bars" U.S. crane rail sizes 104#/yd. and above usually have three drilled holes on the end of each rail and a six bolt splice bar pair. They are secured with six sets of bolt assemblies consisting of a bolt, a nut and a washer. ASCE and tee rails are generally joined with four bolt assemblies.

The drilling of rail ends and punching of splice plates follow generally accepted industry standard patterns for bolt assembly size, hole size and spacing which can be found in the AISC Manual of Steel Construction.

The standard drilling for tee rails and corresponding punching for splice bars provide for a 1/16" to 1/8" gap between rail ends. Although this construction is satisfactory for railroad track and light crane service, its use in general crane service may lead to joint batter. For best service in bolted splices, it is recommended that "tight fit joints" be stipulated for all rails prepared for crane service.







PWI rail installation notes.

- 1. Maintain 1/2" gap from end of crane rail to beam end stop.
- 2. On both sides of the crane rail, weld rail clips 2' on center.
- 3. Use hammer to 'set' the crain rail splice bolts as you torque bolts
- 4. Crane rail splices should offset from runway beam splices.
- 5. Crane rail joints on opposite sides of the runway should be staggered.

CMAA 74

- 1.4.1.1 .1 Rails shall be straight, parallel, level, at the same elevation and at the specified center to center distance, within the tolerances given in Table 1.4.1-1.
- 1.4.1.1 .2 The runway rails should be standard rail sections, or other commercial rolled section with equivalent specifications and of a proper size for the crane to be installed.
- 1.4.1.1 .3 Crane rail splices shall be bolted or welded. Rail joints on opposite sides of the runway should be staggered. Properly selected hold-down devices shall be used to anchor the rail to the runway. Lateral "floating" type rail fastening is not recommended.
- 1.4.1.1.4 Rail joint misalignment can be a significant factor in wheel, axle, and bearing failures. It is recommended that horizontal rail separation at joints not exceed 1/16 inch. Vertical and horizontal alignment at joints should be maintained as closely as possible. Rail joints should be ground flush as necessary to provide a smooth transition from each rail segment to the next.

CMAA 70 1.41

- 1. Elevation of rails: ±3/8" above or below an assumed reference elevation.
- 2. The maximum rate of elevation change: ¼" in 20'-0".
- 3. Rail to rail elevation: $\pm \frac{1}{4}$ " within the nominal average span length.
- 4. The maximum rate of change of rail to rail elevation: ¼" in 20'-0"
- 5. Straightness of rail: ± 3/8" on either side of an assumed rail centerline
- 6. The maximum rate of change of rail straightness: ¼" in 20'-0"
- 7. Variation in crane span: $\pm \frac{1}{4}$ " difference relative to the nominal crane span
- 8. The maximum rate of change of variation in crane span: $\frac{1}{4}$ " in 20'-0"

For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.





Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments.



Runway Beam and Rail Tolerances

ITEM	FIGURE	OVERALL TOLERANCE	MAXIMUM RATE OF CHANGE
CRANE SPAN (L) MEASURED AT CRANE WHEEL ONTACT SURFACE	max. L = L + A	L \leq 50' A = $\frac{3}{16}$ " L \geq 50' \leq 100' A = $\frac{1}{4}$ " L \geq 100' A = $\frac{3}{16}$ "	¼" IN 20′-0"
STRAIGHTNESS (B)	+B	B = ¾"	¼" IN 20'-0"
ELEVATION (C)	1 +c 1 -c	C = 3/e"	¼" IN 20′-0"
TOP RUNNING TRANSVERSE RAIL TO RAIL ELEVATION (D) TRANSVERSE IRDER TO GIRDER ELEVATION UNDER RUNNING	SPAN L D T D D D D D D D D D D D	L \leq 50' D = $\pm \frac{3}{16}$ " L $>$ 50 \leq 100' D = $\pm \frac{1}{4}$ " L $>$ 100' D = $\pm \frac{3}{16}$ "	N/A
(D)	SPAN L ↑		







Splice Joint Installation Details

TYPES OF SPLICES

Mechanical splices are used to connect one length of rail to the next. Generally, mechanical splices are more popular on smaller rail sizes, such as ASCE sections, or tee rails and should only be used on lighter duty applications not high duty cycle production cranes. Of those joints that are mechanically fastened, most use the splice bar type of plates without any toe, instead of partial or full toe plates.

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U.S. crane rail sizes 104#/yd. and

above usually have three drilled holes on the end of each rail and a six bolt splice bar pair. They are secured with six sets of bolt assemblies consisting of a bolt, a nut and a washer. ASCE and tee rails are generally joined with four bolt assemblies.

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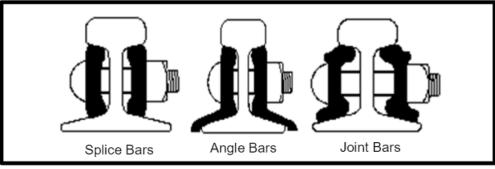


Figure 1







Splice Joint Installation Details

SPLICE JOINT BOLT ASSEMBLIES

There is no specific torque requirement for rail splice bolts but standard practice would dictate the bolts be torqued to a proof load of 70% of the bolt tensile strength.

Note as shown in figure 2 that the rail splice bolts should be inserted from alternating sides of the splice to aid in equal distribution of the tightening forces.



Figure 2

Proper splice joints are designed to wedge between the angled underside of the railhead and the angled top of the rail flange as shown in figure 3. The splice joint should not bear against the web of the rail and a drilled flat bar is not an acceptable alternative.

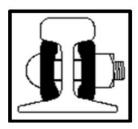


Figure 3

The mating angle between the rail and

splice bar is either 12 or 13 degrees depending on the rail size. Both the rail and splice bar have relatively rough surfaces when new and the joints wear in as the runway system is operated. Because of the geometry and wear, bolt pretension load can be lost very quickly. This condition can be aggravated when the rail is mounted on a crane rail pad or the rail joint falls between discontinuous support pedestals. Because of this ASTM A325 or ASTM A490 grade bolts should be specified and splice bolts should be retightened after 30 days of use and checked every three months thereafter. On discontinuous supported systems special sole plates should be positioned to support the rail joint whenever feasible.

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Mezzanines

Top Running Crane Design Form



The purpose of this form is to help crane OEM's design top running bridge cranes.

Customer Name:

Project Description:

Project #:

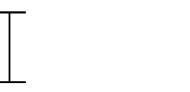
Girder Type:

ifting Devices

□ Single Girder

Double Girder

- Girder Member Shape:
- □ W Beam Girder Size: _____
- □ Box Girder Size: ____

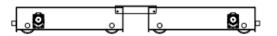


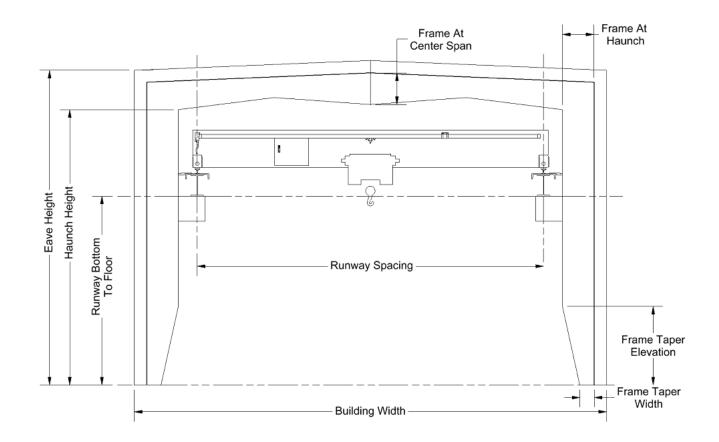
Number of End Trucks:

□ Single End Truck

Bogey End Truck











Top Running Crane Design Form



													ST	T١	V he	el L	oad	ing ,	/ W	/hee	lba	se													STT Wheel Loading / Wheelbase														
	Girder Qty.	D ↓	A →	42"	48"	54"	60"	66"	72"	78"	84"	90"	96"	102"	108"	114"	120"	126"	132"	138"	144"	150"	156"	162"	168"	174"	180"	186"	192"	198"	204"	210"	216"	222"	228'														
STT-130	1	7.87"		\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	7,600																																								
STT-170	1	9.84"			\rightarrow	÷	\rightarrow	12,500	11,000	10,200	9,400	8,500																																					
	2													\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	\rightarrow	12,500																													
STT-250	1	11.81"				\rightarrow	18,400	16,200																																									
311-230	2	11.01											\rightarrow	18,400																																			
	1	15.74"					\rightarrow	31,000	30,200	29,400																																							
STT-300	2		lbs. →										\rightarrow	31,000																																			
311-300	1	20"																			\rightarrow	\rightarrow	+	\rightarrow	+	31,000	30,000	28,600	27,000																				
	2	20																			\rightarrow	\rightarrow	÷	\rightarrow	+	\rightarrow	\rightarrow	\rightarrow	31,000																				
	1	24"						\rightarrow	→	\rightarrow	\rightarrow	\rightarrow	\rightarrow	55,000																																			
	2	24"															\rightarrow	→	\rightarrow	\rightarrow	\rightarrow	\rightarrow	55,000																										
STT-500	1	30"															\rightarrow	→	\rightarrow	55,00																													
	2	30															\rightarrow	55,00																															

			(0	Class C) S	STT End 1	Truck Wh	Ç	S tarke								
	Wheel	Specs			ASCE Crane Rail Size											
Diam	otor	Trood	Width	25#	30#	40#	60#	85#	90#	105#						
Diam	ieter	rreau	wiatn	Head Width (in.)												
mm	in.	mm	in.	1.50	1.69	1.88	2.38	2.50	2.56	2.56	2.56					
130	5.12	50	1.97	7,600												
170	6.69	70	2.76	10,000	10,700	12,500										
250	9.84	70	2.76		15,700	18,400										
300	11.81	80	3.15			22,200	31,000									
500	19.69	90	3.54				51,700	55,400	55,400	55,400	55,400					
BHN 420	0 (Brinell	Hardnes	s Numbe	er)			•	•	•	•						



CMAA 70

4.13.4 **Proper Clearance for Bridge Wheels**

A total of <u>approximately</u> 3/4 inch to one inch wider than rail head should be provided between the wheel flanges and rail head. Tapered tread wheels may have a clearance over the rail head of 150 percent of the clearance provided for straight tread wheels as recommended by the crane manufacturer.

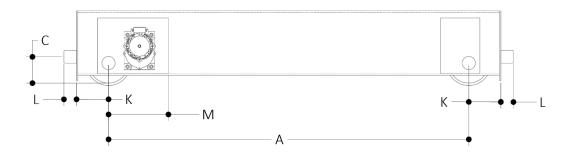


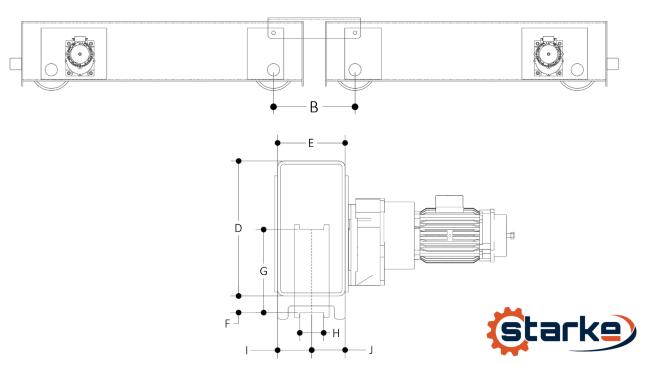


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Top Running Crane Design Form







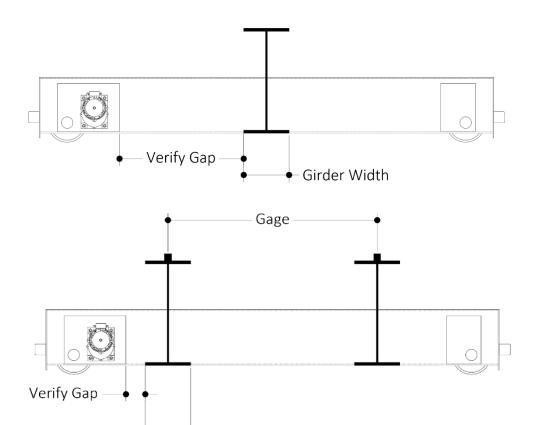
						STT Di	mensio	ons						
STT	Α	Α	В	С	D	Е	F	G	Н	I	J	K	L	М
mm	min	max	min											
130	42"	72"	13"	3.34"	7.87"	5.90"	.78"	5.12"	1.96"	2.95"	2.95"	5"	2.18"	7.55"
170	48"	126"	15"	3.54"	9.84"	5.90"	1"	6.69"	2.76"	2.65"	3.24"	6"	2.18"	9.05"
250	54"	150"	19"	4.5"	11.81"	7.87"	1.96"	9.84"	2.76"	3.93"	3.93"	8"	3.12"	15.15"
300	60"	150"	23"	6.29"	15.74"	7.87"	1.96"	11.81"	3.14"	3.93"	3.93"	10"	3.12"	16.45"
300	138"	192"	23"	6.29"	20"	8"	1.96"	11.81"	3.14"	4"	4"	10"	3.12"	16.45"
F00	66"	192"	31"	8.07"	24"	11"	1.96"	19.68"	3.54"	5.11"	5.89"	14"	4.72"	16"
500	192"	228"	31"	8.07"	30"	11"	1.96"	19.68"	3.54"	5.11"	5.89"	14"	4.72"	16"

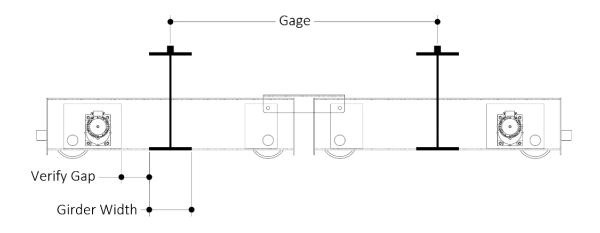




Top Running Crane Design Form







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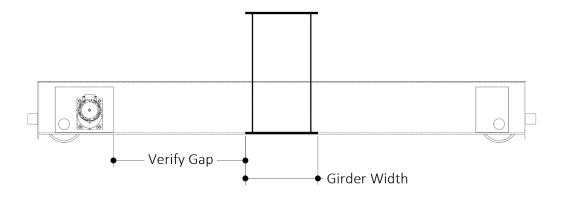


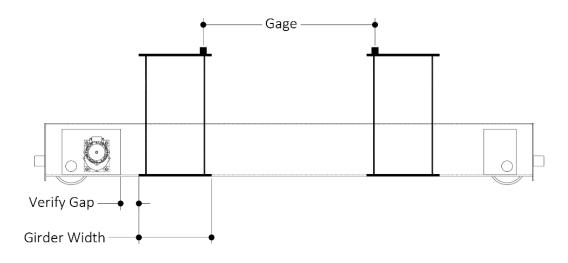


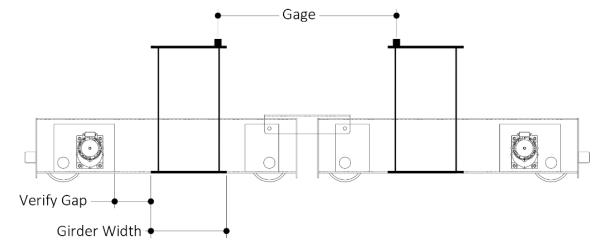
Girder Width

Top Running Crane Design Form









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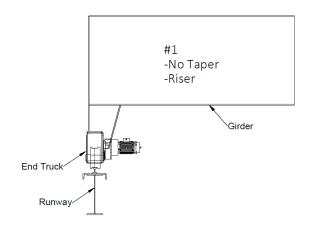


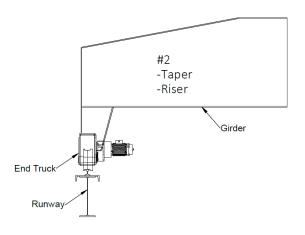


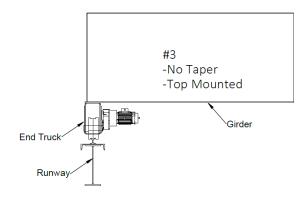
Mezzanines

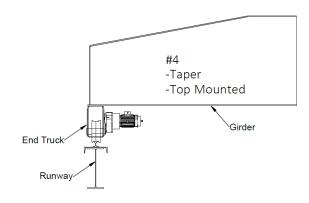
Girder to End Truck Mounting Options for Wide Flange Beams or Box Girders

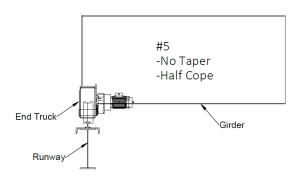
Top Running Crane Design Form

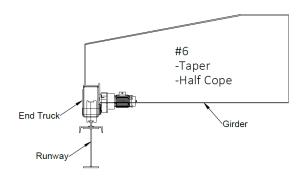












Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.

58

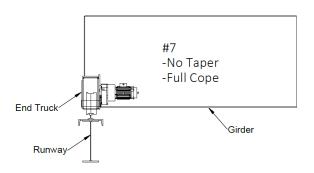


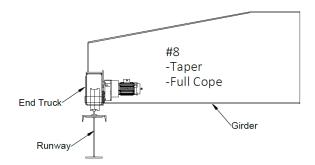
Mezzanines

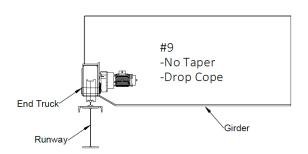
Top Running Crane Design Form

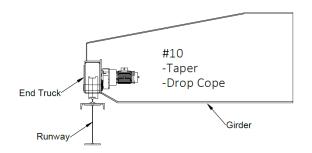


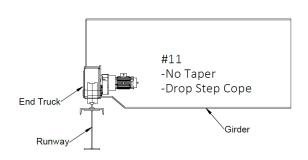
Girder to End Truck Mounting Options for Wide Flange Beams or Box Girders

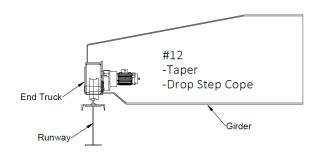


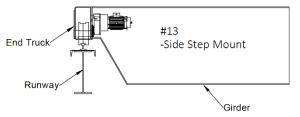










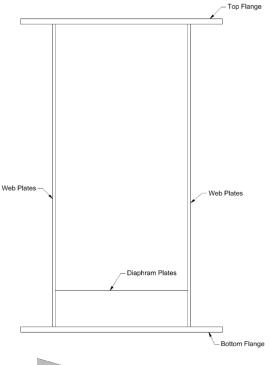




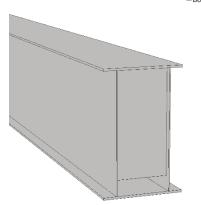


Box Girder Welding Procedure

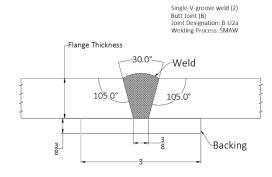




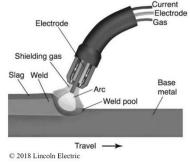
- All welding must be performed by AISC certified welders.
- 2. Welding, both shop and field, shall be accomplished by qualified welders for the weld types and positions involved according to the "Structural Welding Code" AWS D14.1. Use only shielded arc electrodes of structural type. Use E-70 electrodes
- Material list does not include miscellaneous metals, welding material and supplies, end truck material including diaphragm end plates, and other materials not included on the drawings
- 4. All plate steel for flanges and webs, angles and diaphragms shall be A572 or better.
- 5. Note: splices in top & bottom flanges shall be C.J.P single V-groove weld (flush). Splices in webs shall be C.J.P. single V-groove weld (flush) with backer plate.





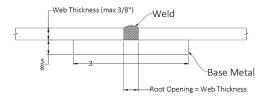


Pregualified Welded Joint



FCAW-G Flux Cored Arc Welding (gas-shielded) The gas-shielded versions of flux-cored electrodes use an externally supplied shielding gas.







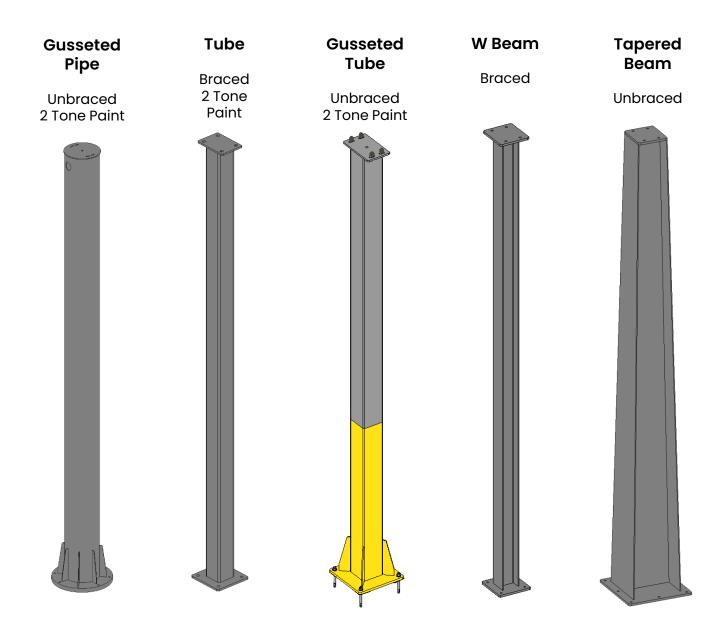


Freestanding Crane Columns



Product Description

- Supports braced or unbraced crane runways
- Effectively withstands imposed crane loads
- 5 options depending on system height, capacity, and structure type





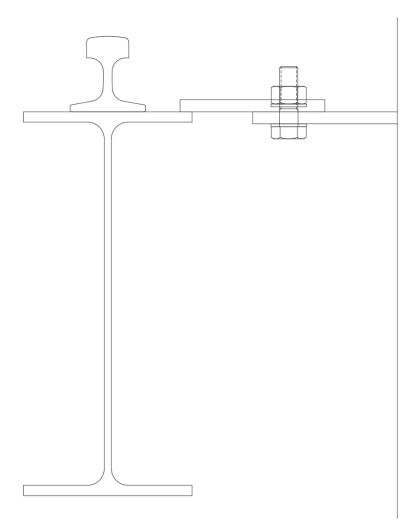


Braced Column Tie Back Plates



Product Description

- Tie backs are installed to attach the top flange of runways to the PEMB (Pre-Engineered Metal Building) column
- Tie backs are used when building structure has sufficient strength to withstand crane forces. This scenario would allow using an unbraced W beam or Tube column.







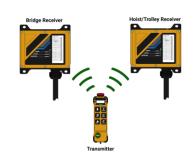
INCOMMAND Under Running Bridge Crane



Single Girder

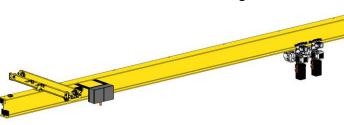
Product Description

- Under running design allowing for the entire width of the crane and workspace to be utilized.
- While it lowers the overall hook height that can be obtained, this system allows for the ability to upgrade to an interlock for important material transfers where necessary.



Product Features

- Capacity: 1 Ton, 2 Ton, 3 Ton, 5 Ton, 6 Ton, 7.5 Ton, 8 Ton, 10 Ton
- Span: 10'-70'
- Starke SCU end trucks
- Monorail wire rope hoist or chain hoists
- Radio Controlled
- End truck wheels include ball bearings







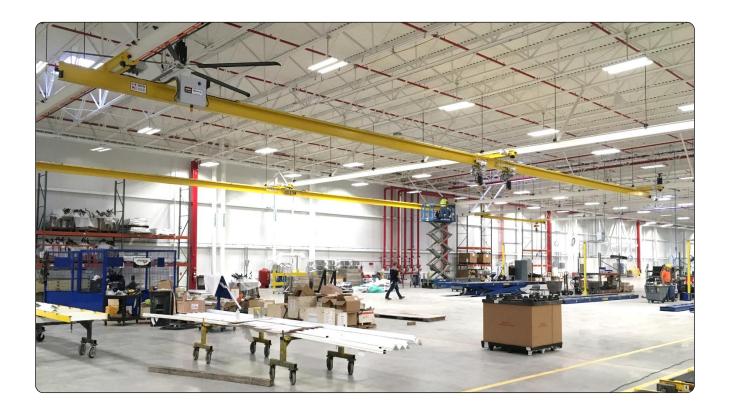


Mezzanines

INCOMMAND **Under Running Bridge Crane**



Single Girder







Mezzanines

INCOMMAND Under Running Bridge Crane



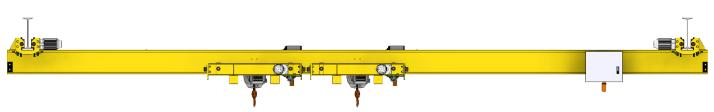
Double Girder Low Headroom

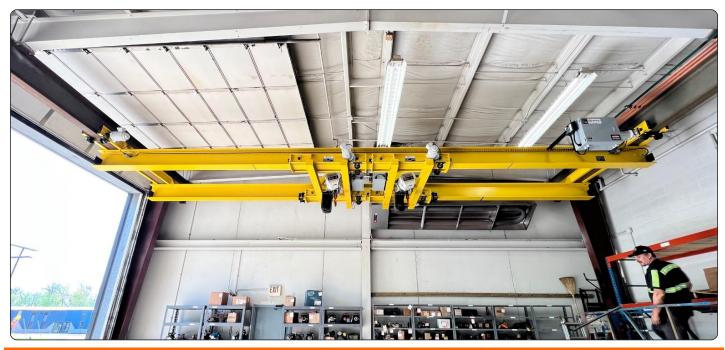
Product Description

- A custom approach that allows for use of an established under running runway system while improving the hook height.
- This system is traditional meant for old equipment upgrades.

Product Features

- Capacity: 1 Ton, 2 Ton, 3 Ton, 5 Ton, 6 Ton, 7.5 Ton, 8 Ton, 10 Ton
- Span: 10'-70'
- Starke SCU end trucks
- Chain Hoist
- Radio Controlled
- End truck wheels include ball bearings









INCOMMAND **Monobridge**



Product Description

- · Bridge crane rolls on wide flanged beam bottom flanges
- Utilizes one runway for large span systems that only require minimal hoist trolley travel



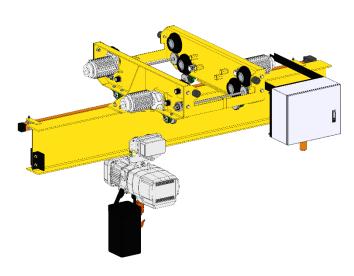
Product Features

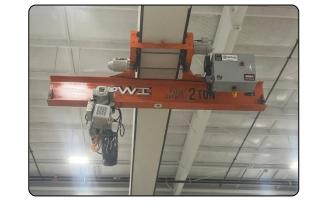
- Capacity: 1 Ton, 2 Ton, 3 Ton, 5 Ton, 6 Ton, 7.5 Ton, 8 Ton, 10 Ton
- Span: 5'-15'

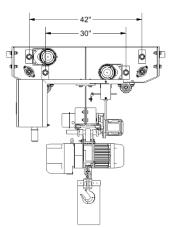
Cranes

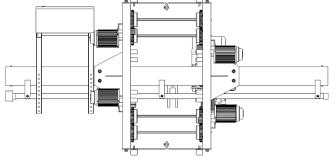
Lifting Devices

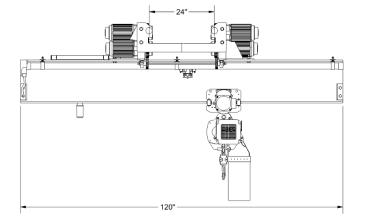
- · Starke SCU end trucks
- · Radio Controlled
- · End truck wheels include ball bearings















INCOMMAND Under Running Bridge Crane



Single Girder Telescoping

Product Description

 Under running crane upgrade that provide additional coverage around to adjacent workspaces without installation of another crane system.

Product Features

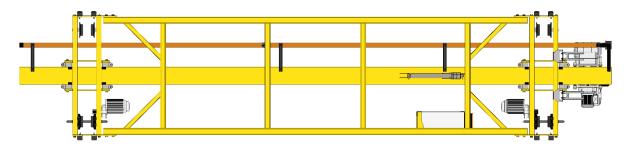
- Capacity: 1 T, 2 T, 3 T, 5 T, 6 T, 7.5 T, 8 T, 10 T
- Span: 10'-60'

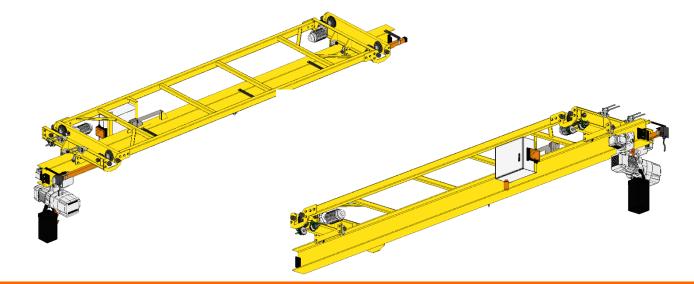
Lifting Devices

- Starke SCU end trucks
- Radio Controlled
- · Optional Pneumatic or Electric Telescoping
- Sub Frame to connect end trucks
- End truck to girder rollers allow girder to telescope.













Automated Production Crane



Product Description

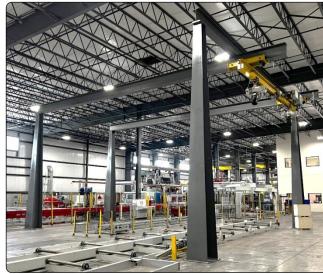
 This upgrade can be added to any crane system through the addition of a custom control panel with PLC to provide automated lifting capabilities.

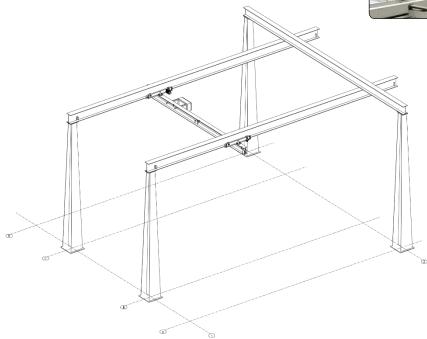
Product Features

- Capacity: 1 Ton, 2 Ton, 3 Ton, 5 Ton, 6 Ton, 7.5 Ton, 8 Ton, 10 Ton
- Span: 10'-70'

Cranes

- Bridge travel automated stops: A/B/C/Home
- 480V/3 phase









Cranes Components Index



- Interlocks
- End Trucks
- Panels & Controls
- <u>Crane Accessories</u>
- End Stops
- Columns & Footings





Under Running Motorized Bridge Interlock

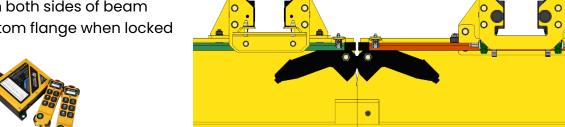


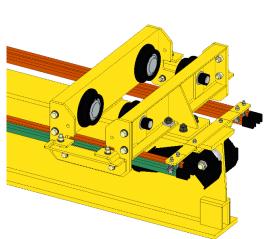
Product Description

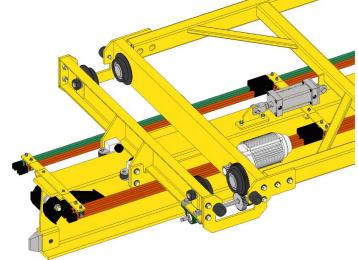
Mechanism that successfully aligns and locks two bridges in place so that the trolley and hoist can travel from one bridge to another successfully transferring loads across a workspace.

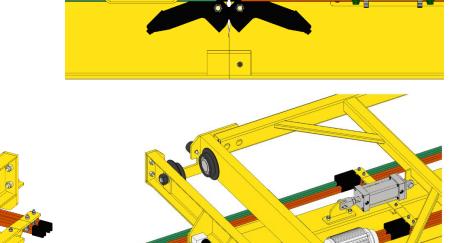
Product Features

- Capacity: 1 T, 2 T, 3 T, 5 T, 6 T, 7.5 T, 8 T, 10 T
- Optional interlocking a bridge crane to a monorail or another bridge crane
- Allows for interlocking at any point where both bridges are aligned
- Starke SCU end trucks
- Radio Controlled
- Optional Pneumatic or Electric Telescoping
- Self-aligning blade
- Sub Frame to connect end trucks
- End truck to girder rollers allow girder to Quiet/Smooth operation
- End stops on both sides of beam
- Gapless bottom flange when locked













Under Running Manual Bridge Interlock



Product Description

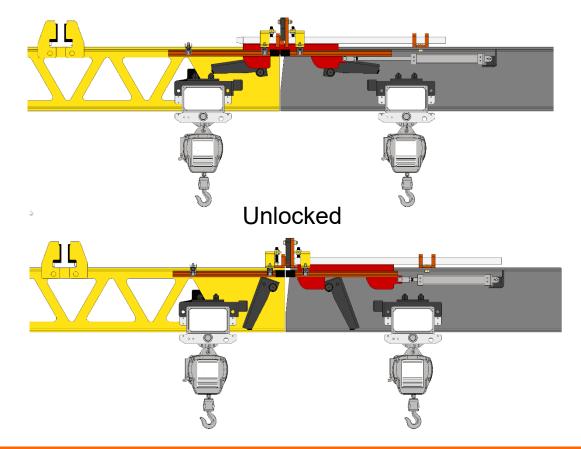
 Mechanism that successfully aligns and locks two bridges in place so that the trolley and hoist can travel from one bridge to another successfully transferring loads across a workspace.

Product Features

- Capacity: ¼ T, ½ T, 1 T, 2 T, 3 T
- · For interlocking a bridge crane to a monorail
- Self-aligning pin
- Less expensive
- · End stops only on one side of beams
- · Tight clearance required between bridge and monorail
- ¼" Gap on bottom flange whole locked
- Optional Starke SCU end trucks or PZU end trucks
- Radio Controlled
- No subframe required

Pneumatic









Mezzanines

Top Running Motorized Runway Interlock

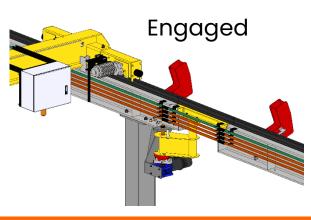


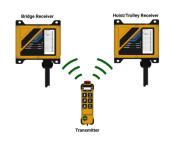
Product Description

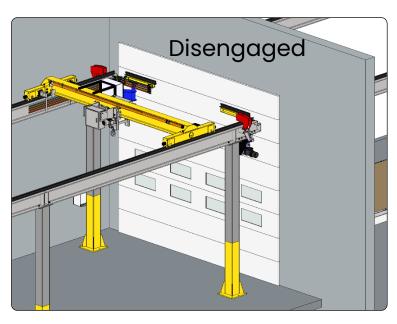
- Top running interlock system that allows for an overhead door to pass through runway.
- · Applications:
 - Indoor Outdoor crane system
 - Dock flat bed load / unload
 - Paint Booth enclosure
 - · Wash Bay enclosure
 - Maximize existing square footage

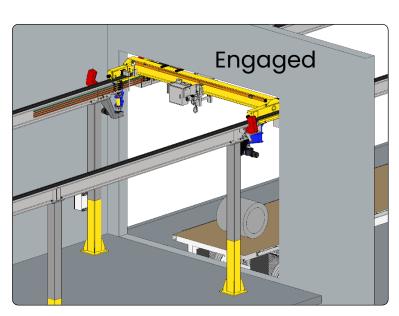
Product Features

- Radio controlled for interlock position
- 1 Ton 50 Ton Runway Capacity
- · Accommodates any ASCE rail size
- System Voltage: 460v/3ph
- · 90deg. Interlock Rotation
- Powered End Stops
- Includes custom control panel with PLC to control all functions of interlock and end stops to ensure safety and compliance.
- Proximity sensors always ensure position of all components.
- Safety: End stops need to fully open or fully close prior to interlock (Unlock / Lock).













Lifting Devices

Under Running Bridge To Monorail Interlock



Product Description

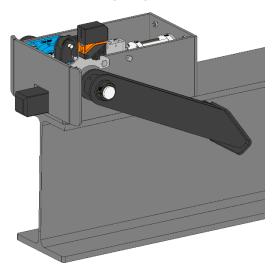
 Interlock system that allows a moving bridge to interlock with a fixed monorail section.

Product Features

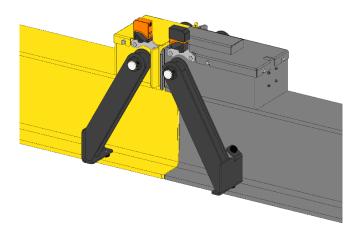
- Capacity: up to 15 ton
- For interlocking a bridge crane to a monorail or transfer zone
- Self-aligning 2" x 2" square locking pin
- Tight clearance required between bridge and monorail
- 1/8" 1/4" Gap on bottom flange when locked
- · Compatible with Starke SCU end trucks
- Radio Controlled
- No subframe required
- Pneumatic cylinder



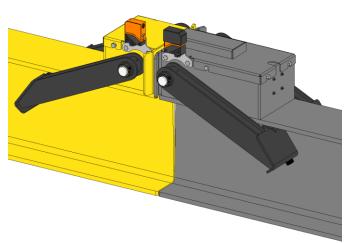
Engaged



Disengaged



Engaged







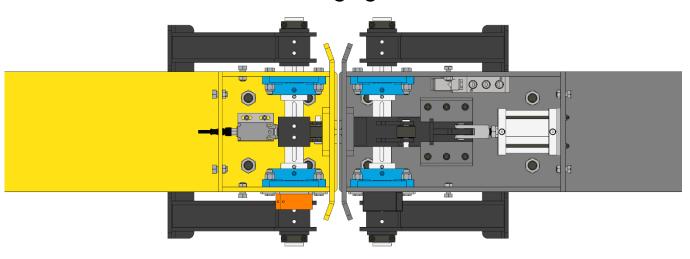
Under Running Crane Interlock



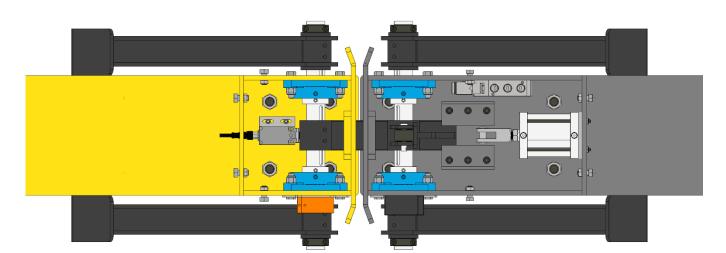
Crane

Lifting Devices

Disengaged



Engaged



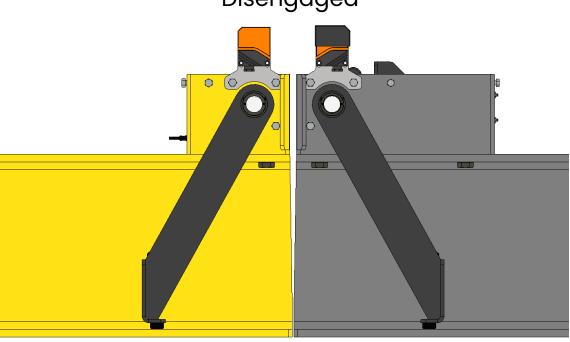




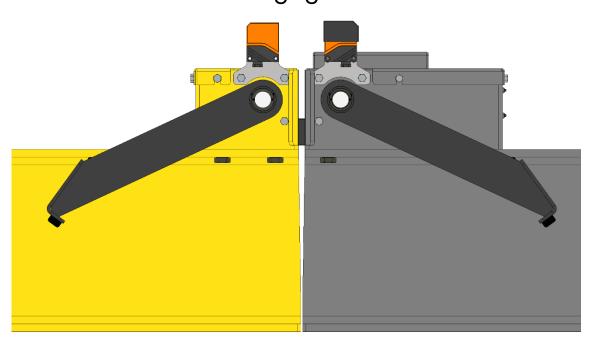
Under Running Crane Interlock







Engaged







Lifting Devices

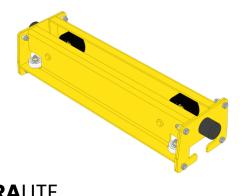


Manual

Motorized

PZT - Top Runner







(Starke)

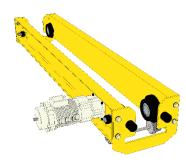
(Starke)

ULTRALITE

PZU - Under Running

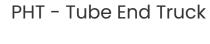
SCU - Under Running

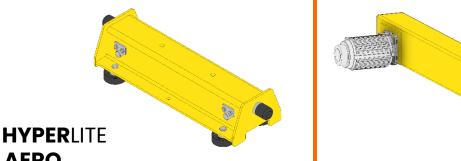




ULTRALITE

STT - Top Running









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AERO

Mezzanines

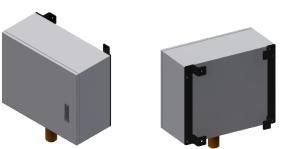
Bridge Control Panel Mounting Options

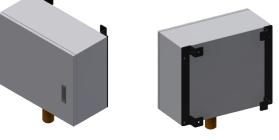


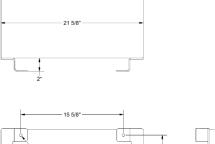
Side Mounted

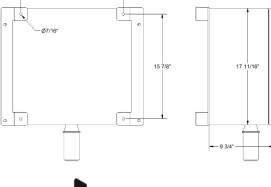


Top Mounted

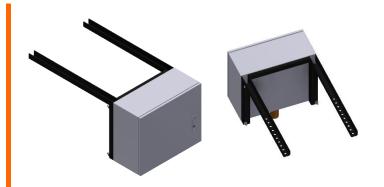


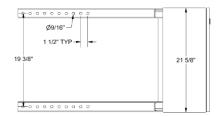


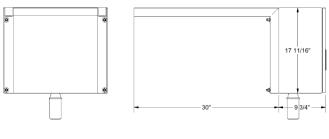


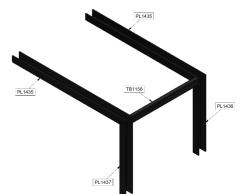
















Controls Type	Single or 2 Speed	Full Variable Control
Wireless		T. A.
Pendant	100 80 80	JARIABLE SPEED





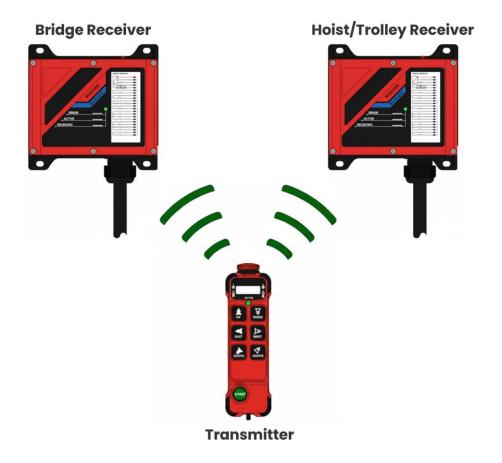
Solety

Lifting Devices

Mezzanines

Control Options















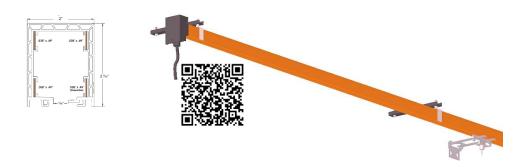


Cranes

Mezzanines















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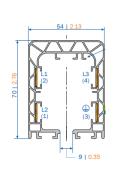


















Bridge Crane Buffer



Product Description

 Limits travel between adjacent hoists or bridges to maximize bridge or runway capacity

Product Features

- Options:
 - Top Runner Bridges
 - Top Runner Runways
 - Underhung Bridges
 - Underhung Runways



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Lifting Devices

Manual Bridge I Beam Brake

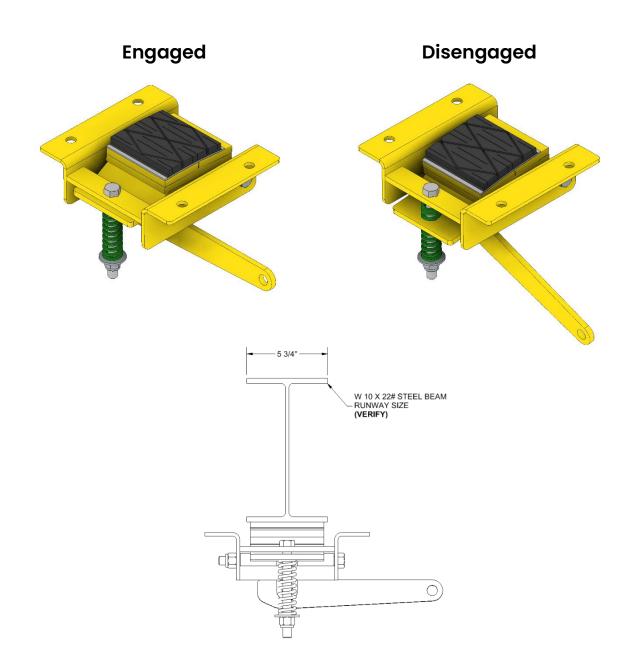


Product Description

• Manual Bridge Brake

Product Features

Compatible with PZU End Trucks







Stationary Under Running Side Guide Roller



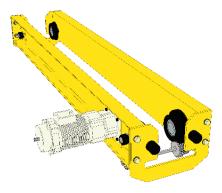
Product Description

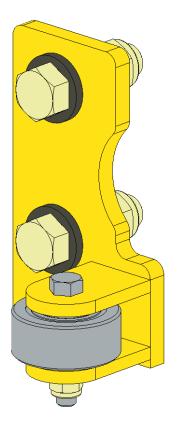
· Side Guide Roller

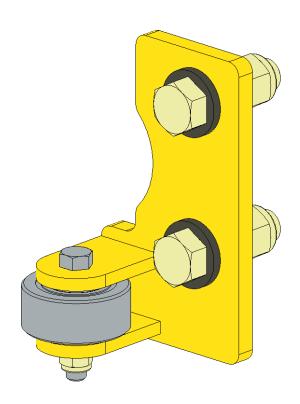
Product Features

• Stationary Side Guide Rollers













Lifting Devices

Adjustable Under Running Side Guide Roller



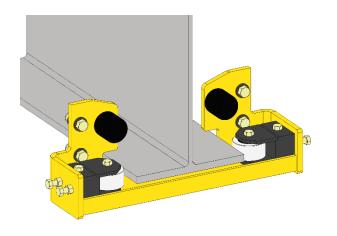
Product Description

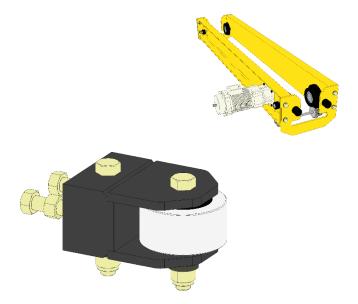
 Adjustable side guide roller for Starke SCU Under Running End trucks on Wide Flange beams

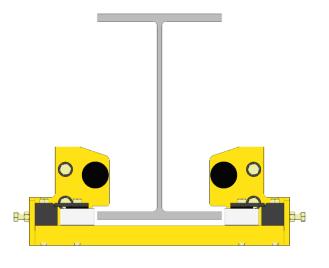


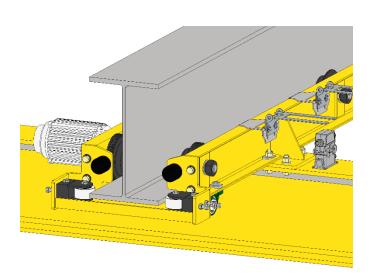
Product Features

- · Compatible with SCU End Trucks
- · Adjust bridge girder alignment with monorail / interlocks













Starke 300 Series Brake



Product Description

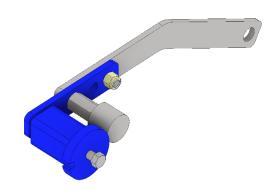
- Parking brake system that can be added to any PWI Hyperlite bridge crane
- Provides the user with a method of holding the bridge in place for specific applications.

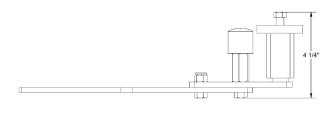
Product Features

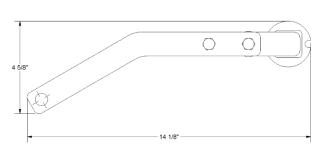
Compatibility:

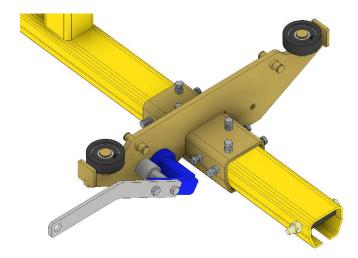
Cranes

- Starke End Trucks
- Crosswalks









Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.

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Bridge End Stops

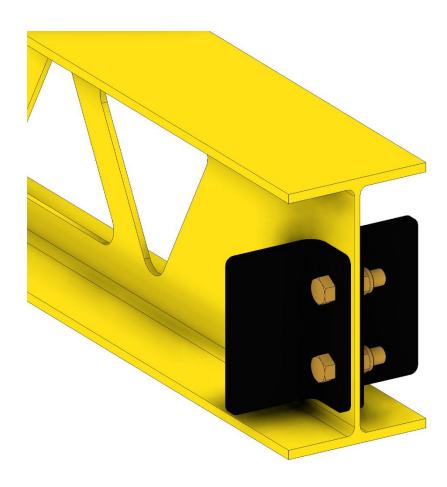


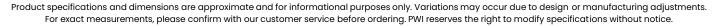
Product Description

Web Bolted End Stops

Product Features

- Formed plate
- Small, medium per beam height









Lifting Devices

Cranes

Bridge End Stops



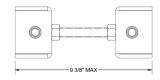
Product Description

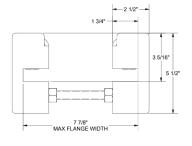
Clamp Style End Stops

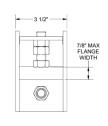
Product Features

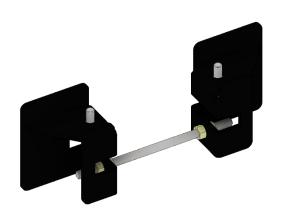
- · Clamped to bottom flange
- Adjustable placement
- Small, medium, large per beam flange

Size: Small Model #: PWCES200

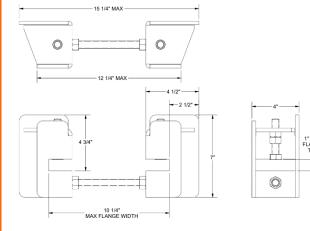


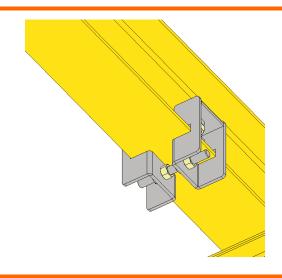




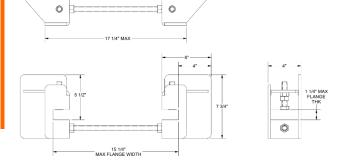


Size: Medium
Model #: PWCES201





Size: Large Model #: PWCES202







Cranes

Runway End Stops

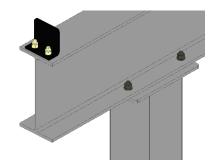


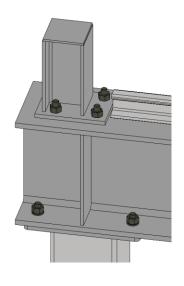
Product Description

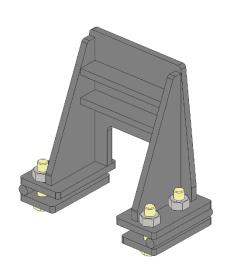
Runway Mounted End Stops

Product Features

- Formed Plate
 - · Bolted to web or top flange
 - · Used for monorail runways or top runner cranes
- Beam End Stop
 - Bolted to top flange
 - Used for top running cranes
- Clamp End Stop
 - Clamped to top flange
 - Used for top running cranes
 - Allows for adjustable bridge travel







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Lifting Devices Index



- **Rotational Devices**
- **Material Delivery**
- **Material Handling**

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Rotational Devices Index



- TORQUE Frame Rotator
- TORQUEX Frame Rotator
- TORQUEMP Material Positioner
- Front Hitch Rotation Units





TORQUE Frame Rotator



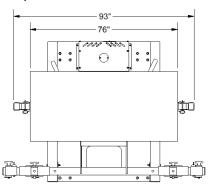
Light Duty

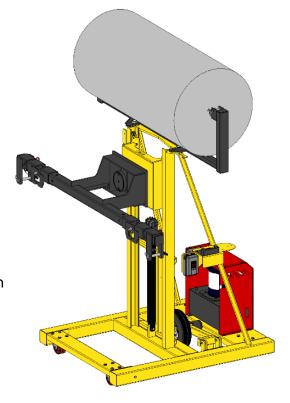
Product Description

- Model Number: 4K72R
- Power Supply: 480V 3Phase
- · Fully hydraulic system
- Functions:
 - Lift/Lower: 4,000 lbs.
 - Rotate: 2,000 lbs.
 - · Unit Travel
- Track:

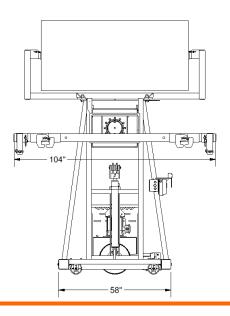
ifting Devices

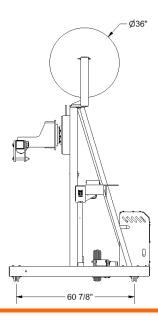
- (2) Runs of Round Bar @ 20' each
- (1) Run of Grip Track @ 20' each
- Couplers: Designed per Customer Application
- Material Roll: Optional Positions















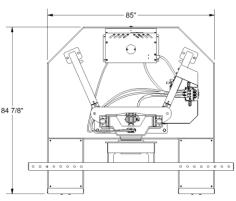
TORQUE Frame Rotator

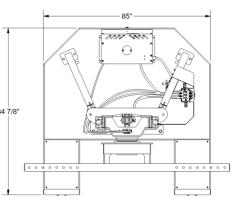


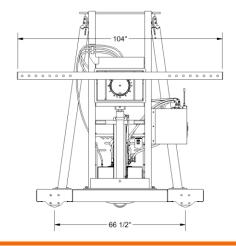
Heavy Duty

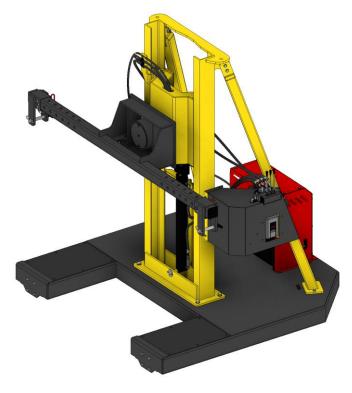
Product Description

- Model Number: 6K72R
- Power Supply: 480V 3Phase
- Fully hydraulic system
- Concrete filled base for counterweight stability
- **Functions:**
 - Lift/Lower: 6,000 lbs.
 - Rotate: 4,000 lbs.
 - **Unit Travel**
- Track:
 - (1) Run of Angle Iron Track @ 20' each
- Couplers: Designed per Customer Application
- Material Roll: Optional Positions

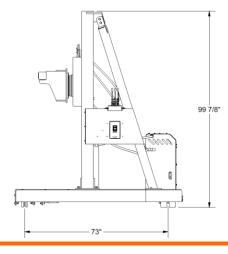












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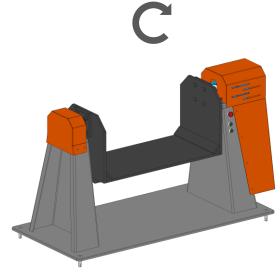


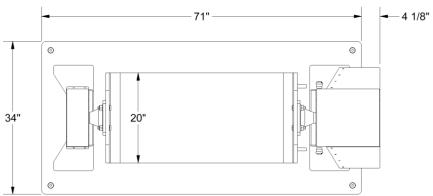
TORQUE Base Mount Positioner

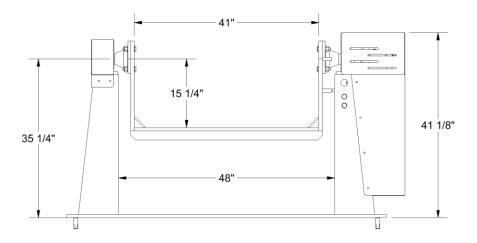


Product Description

- · Model Number:
- Power Supply: 480V 3Phase
- Rotates and positions 4,000 lbs. (concentric)
- Max Rotate Speed: 1.5 RPM
- Includes E-Stop
- On/Off to position fixture at any location.
- Includes limit switches at 180 deg.









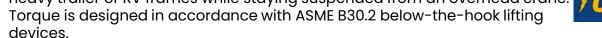


TORQUEX BTH Frame Rotator



Product Description

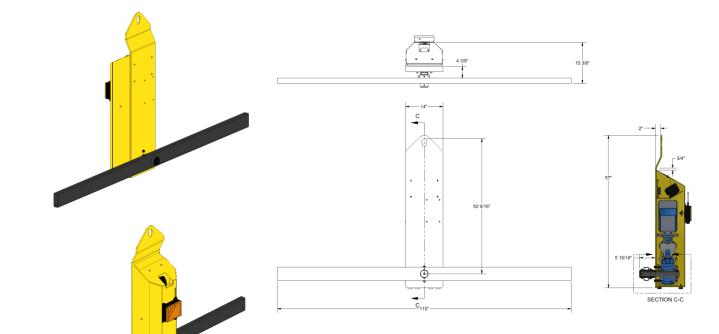
 Like our floor mounted options, the Torque Frame Rotator designed to rotate heavy trailer or RV frames while staying suspended from an overhead crane.





Product Features

- Model Number: FRC2596
- Rotating Capacity: 4,000 lbs. **TOTAL** weight of trailer not to exceed 4,000 lbs.
- The Rotating Capacity may decrease if the center of mass is eccentric to the front and rear rotation attachment points.
- 110" Wide spreader bar included
- Includes HD Electric Gear DC Motor
- Max Rotation Speed: 1.5 RPM
- Operates on rechargeable batteries (DeWALT FLEXVOLT 20/60 MAX DCB609)
- Includes Trailer Frame Bumper Coupler to Match your frame design
- Radio controlled (full variable) (Rotate LH & RH)
- Includes battery charger base







Satet

.ifting Devices

TORQUEX BTH Frame Rotator



K PLUS SERIES K202 R FULL VARIABLE RADIO REMOTE CONTROL

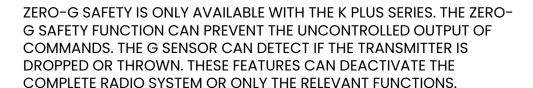






THE K202 FULL VARIABLE SYSTEM IS A 1 MOTION, FULL VARIABLE CONTROL SOLUTION FOR A SINGLE FUNCTION CONTROL OR MONORAIL HOIST APPLICATIONS.

- •COMPLIES WITH UL 61010-1 AND CSA C22.2
- •"QI" WIRELESS CHARGING (TRANSMITTER)
- •G-FORCE SHOCK DETECTION WITH DISABLE
- •OPERATING VOLTAGE 24 240 VAC / 24 160 VDC
- •NIMH TRANSMITTER BATTERIES INCLUDED
- •900MHZ FCC, IC AND CE COMPLIANT
- •IP 65, PA6 NYLON 30% GLASS FILLED ENCLOSURE EACH SYSTEM INCLUDES TWO RECEIVING UNITS, ONE TRANSMITTER WITH LEGEND SHEET, BATTERIES, QI CHARGING PAD, LANYARD, MOUNTING HARDWARE AND INSTALLATION INSTRUCTIONS.







TORQUEX BTH Frame Rotator

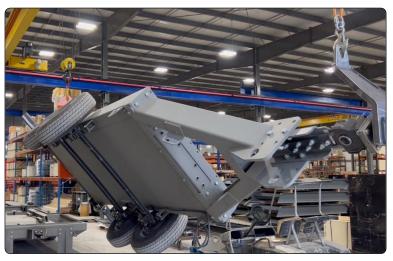


Lifting Devices

Mezzanines













Front Ball Hitch Rotation Unit

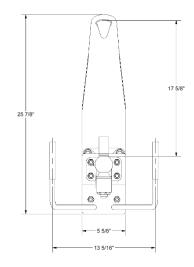


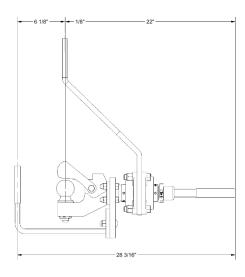
Product Description

- The front ball hitch rotation unit is the perfect device to use in tandem with PWI's
 frame rotator. The integrated ball bearing makes the rotation of any A frame trailer
 smooth and safe.
- Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

Rated Capacity: 2,000









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Front Fifth Wheel Rotation Unit

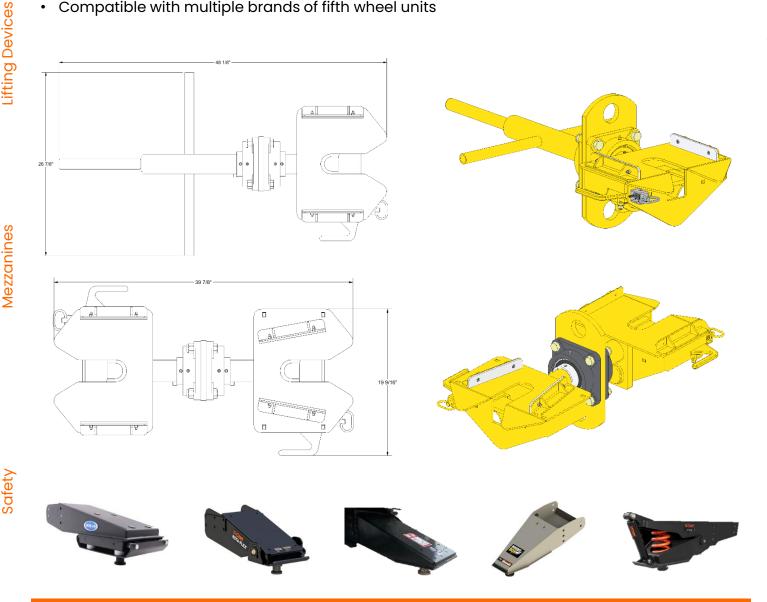


Product Description

- The front fifth wheel rotation unit is the perfect device to use in tandem with PWI's frame rotator. The integrated ball bearing makes rotation of even the largest fifth wheel units smoothly and safely.
- Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Rated Capacity: 4,000 lb.
- Single and Double Rotators
- Autolocking handle
- Compatible with multiple brands of fifth wheel units







TORQUEMP (Material Positioner)



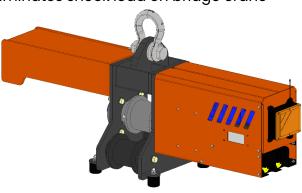
Product Description

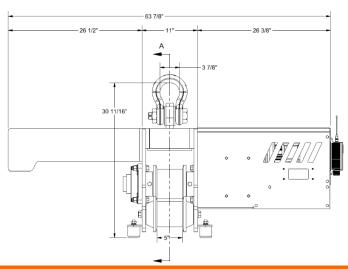
- Designed in accordance with ASME B30.2 Below-The-Hook Lifting Devices
- The TorqueMP is a state-of-the-art Below-the-Hook device that safely rotates material without the operator needing to be in harm's way. The utilization of DeWALT batteries makes this device work on any hoist system without having to add any electrical components.

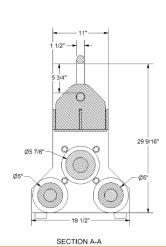


Product Features

- Capacity: 10 Ton (per unit)
- Sold as a pair (2 units)
- Positioner Unit Weight: 750 lbs. (per unit)
- Remote Controlled (pair)
- Wireless
- DeWALT Battery Powered
- Variable Speed Rotation Control
- · Eliminates shock load on bridge crane























TORQUEMP (Material Positioner)

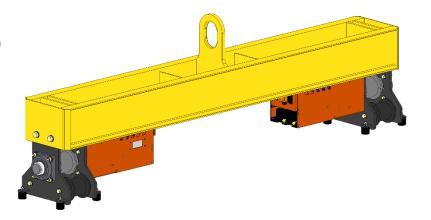


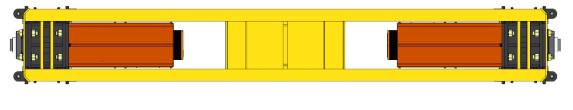
Product Description

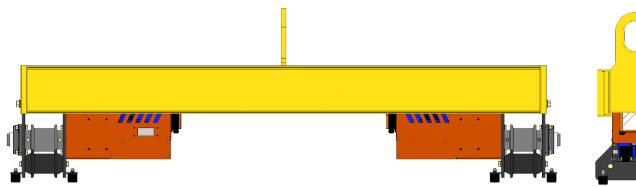
 Designed in accordance with ASME B30.2 Below-The-Hook Lifting Devices

Product Features

- Modular Design allows for single unit on one hoist, or tandem unit mounted on spreader bar.
- Remove counterweight from both TorqueMP Positioners and attach to spreader bar to lift/rotate from one hoist.
- Capacity: 10 Ton (per unit)
- 20 Ton Capacity Spreader Bar
- Positioner Weight: 750 lbs. (per unit)
- 10' Spreader Bar Weight: 975 lbs.







TORQUEMP





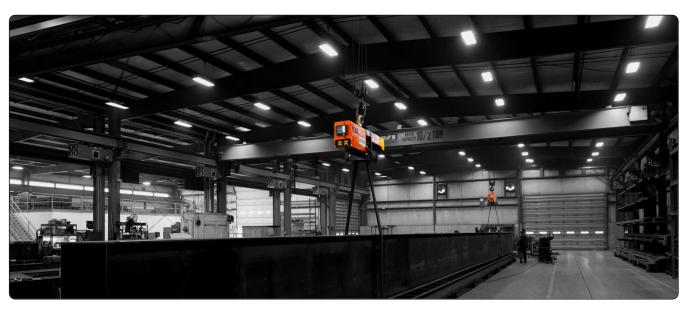
Lifting Devices



TORQUEMP (Material Positioner)











.ifting Devices

TORQUEMP (Material Positioner)



K PLUS SERIES K202 R FULL VARIABLE RADIO REMOTE CONTROL







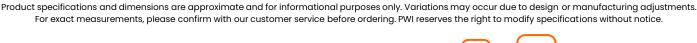
THE K202 FULL VARIABLE SYSTEM IS A 1 MOTION, FULL VARIABLE CONTROL SOLUTION FOR A SINGLE FUNCTION CONTROL OR MONORAIL HOIST APPLICATIONS.

- •COMPLIES WITH UL 61010-1 AND CSA C22.2
- •"QI" WIRELESS CHARGING (TRANSMITTER)
- •G-FORCE SHOCK DETECTION WITH DISABLE
- •OPERATING VOLTAGE 24 240 VAC / 24 160 VDC
- •NIMH TRANSMITTER BATTERIES INCLUDED
- •900MHZ FCC, IC AND CE COMPLIANT
- •IP 65, PA6 NYLON 30% GLASS FILLED ENCLOSURE EACH SYSTEM INCLUDES TWO RECEIVING UNITS, ONE TRANSMITTER WITH LEGEND SHEET, BATTERIES, QI CHARGING PAD, LANYARD, MOUNTING HARDWARE AND INSTALLATION INSTRUCTIONS.

ZERO-G SAFETY IS ONLY AVAILABLE WITH THE K PLUS SERIES. THE ZERO-G SAFETY FUNCTION CAN PREVENT THE UNCONTROLLED OUTPUT OF COMMANDS. THE G SENSOR CAN DETECT IF THE TRANSMITTER IS DROPPED OR THROWN. THESE FEATURES CAN DEACTIVATE THE



COMPLETE RADIO SYSTEM OR ONLY THE RELEVANT FUNCTIONS.







Material Delivery



- **COIL**CONTROL Material Dispenser
- **STACK**COMMAND Stacker Cranes

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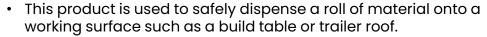
FREE QUOTE

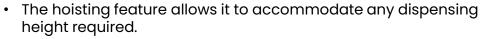
COILCONTROL Material Dispenser



Stationary

Product Description









Product Features

Coil Width: 103"

Coil ID: 19.5"

Coil OD: 30"

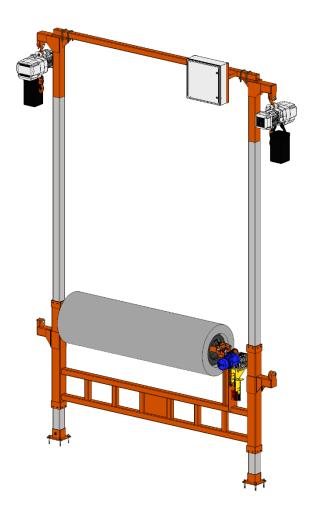
Lifting Capacity: 4,000#

Lift Height: 14'

Power Supply: (460V)

Lifting Speed: 26 fpm

Rotation/Decoiling Speed: variable







COILCONTROL Material Dispenser



Traveling

Product Description

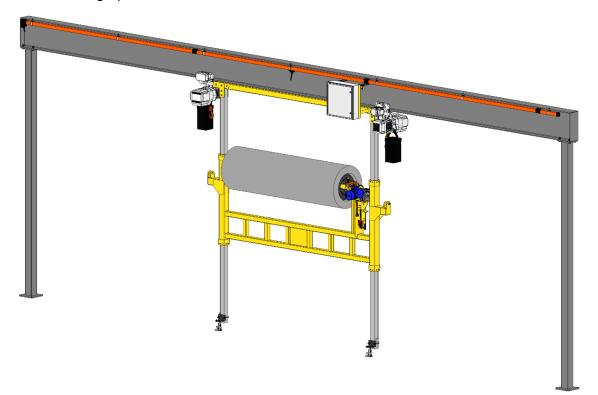
- This product is used to safely dispense a roll of material onto a working surface such as a build table or trailer roof.
- The hoisting feature allows it to accommodate any dispensing height required.
- Travels side to side for coil loading/unloading away from a single file production line.





Product Features

- Coil Width: 103"
- Coil ID: 19.5"
- Coil OD: 30"
- Lifting Capacity: 4,000#
- Lift Height: 14'
- Power Supply: (460V)
- · Lifting Speed: 26 fpm
- · Rotation/Decoiling Speed: variable







STACKCOMMAND Stacker Crane



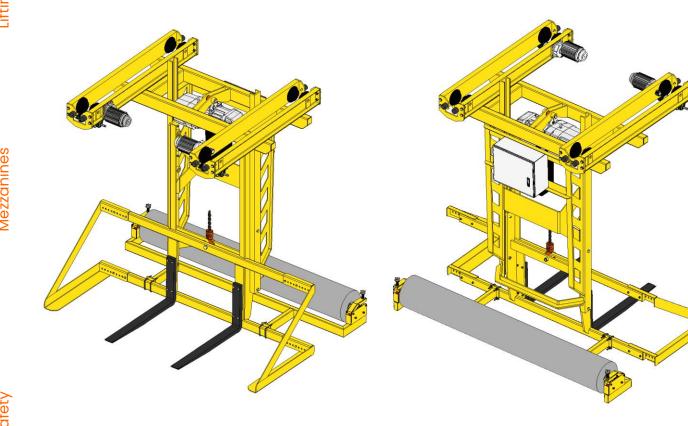
Product Description

• This product allows the worker to transport large loads of decking (plywood, OSB, etc.) or pallets of other material from a mezzanine to the manufacturing space, without the need to haul the material by hand.

Product Features

- 2 Ton, 3 Ton
- · Rear Foil Rack









STACKCOMMAND **Stacker Crane**



Product Description

• This product allows the worker to transport large loads of decking (plywood, OSB, etc.) or pallets of other material from a mezzanine to the manufacturing space, without the need to haul the material by hand.

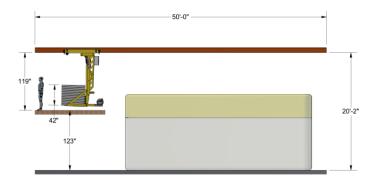
Product Features

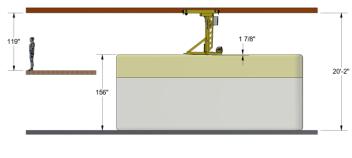
2 Ton, 3 Ton

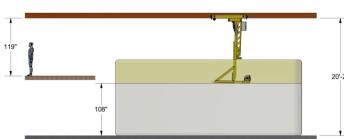
ifting Devices

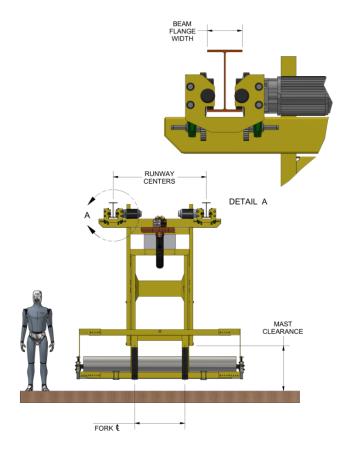
Mezzanines

• Optional Rear Foil Rack













Monorail Cart

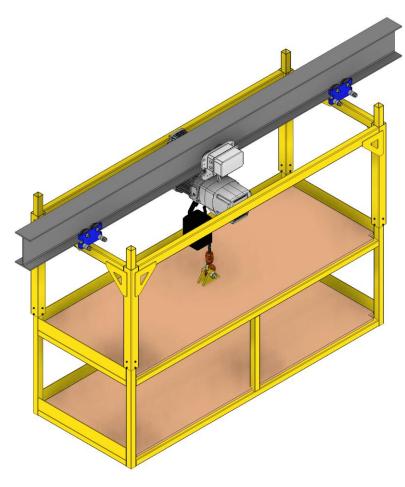


Product Description

 This cart can be used to transport loaded tools and materials to and along the workspace. This allows the employee to work efficiently, without needing to carry items to and from the workspace.

Product Features

- 8'-10' Length
- 3' Width
- · Motorized or manual trolleys
- 1000lb. Lifting Capacity
- Short lip along 3 sides of each shelf to prevent items from sliding off
- Total Height Adjustability: 2' 6"
- Remote Operated
- Designed in accordance with ASME B30.2 Below-The-Hook Lifting Devices









Runway Cart



Product Description

 This cart can be used to transport loaded tools and materials to and along the workspace. This allows the employee to work efficiently, without needing to carry items to and from the workspace. The runway cart more is stable and gives a larger storage space than the monorail cart.

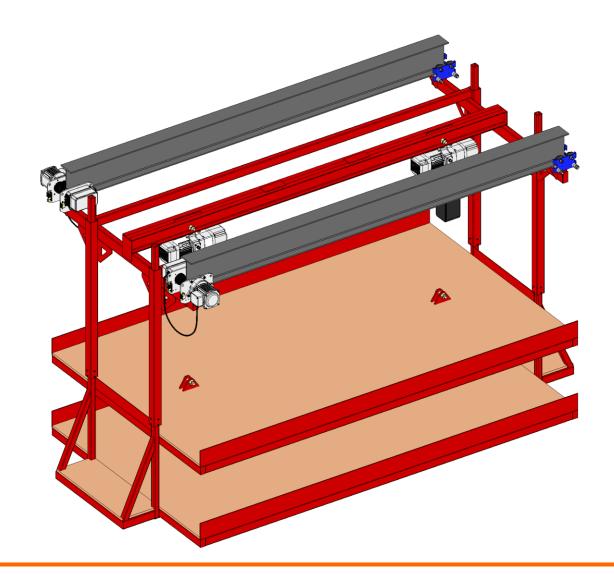
Product Features

- 12' Length
- 6' Width

ifting Devices

- Motorized trolleys
- 800lb. Lifting Capacity
- · Short lip along sides of each shelf to prevent items from sliding off
- Designed in accordance with ASME B30.2 Below-The-Hook Lifting Devices





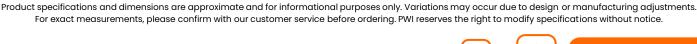




Material Handling Index



- Spreader Bars
- Coil Lifting
- Axle Lifting
- RV Frame Lifting
- RV Floor Lifting
- RV Sidewall Lifting
- RV Slideout Lifting
- RV Roof Lifting
- RV Generic Lifting
- TORQUEMP Material Positioner
- TORQUE Frame Rotator
- VORTEX Vacuum Lifters







Adjustable Spreader Bar

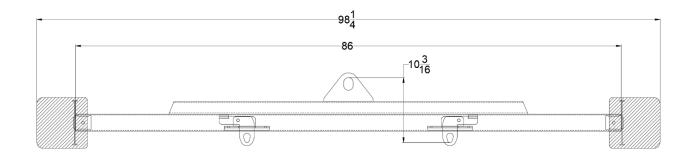


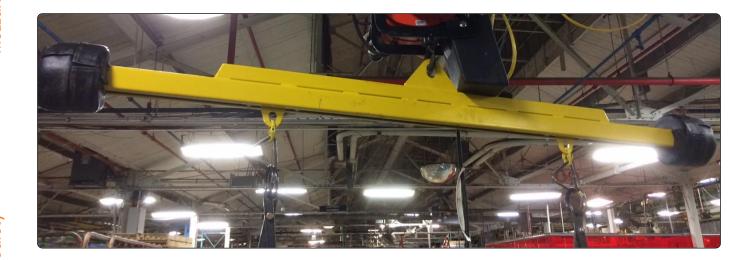
Product Description

 Adjustable spreader bar designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Rated Capacity: 500lb.
- Foam End Protection
- Clamping lift points to allow quick hook placement and ensure stability during use.









Coil Lifter

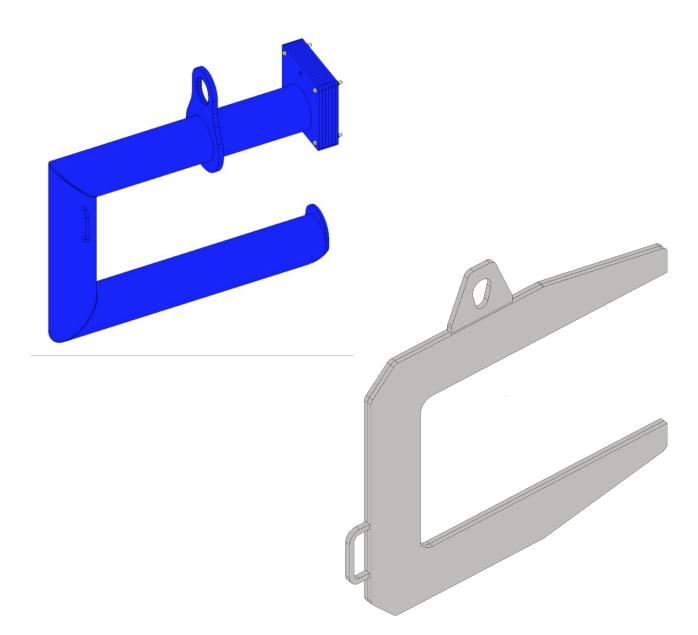


Product Description

 Coil lifting device designed in accordance with ASME B30.2 below-thehook lifting devices.

Product Features

- Rated Capacity: 500 lbs. 10 Ton
- · Contact your sales rep for higher capacities







Single Axle Lifter



Product Description

- The Single Axle Lifter give a single operator the ability to lift vehicle or RV
 axles without the help of a second person. The convenient handle gives the
 operator the ability to precisely manipulate the axle without being under it.
- Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

Rated Capacity: 1,000lb.







Double Axle Lifter

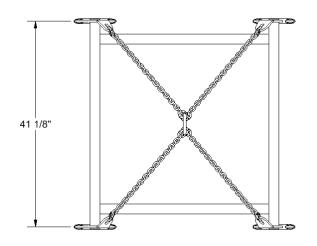


Product Description

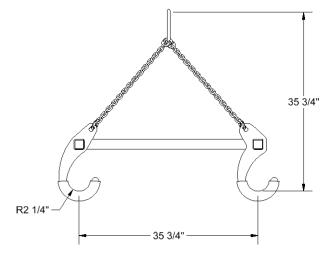
- The Single Axle Lifter give a single operator the ability to lift 2 vehicle or RV axles without the help of a second person. The convenient handle gives the operator the ability to precisely manipulate the axle without being under it.
- Designed in accordance with ASME B30.2 below-the-hook lifting devices.

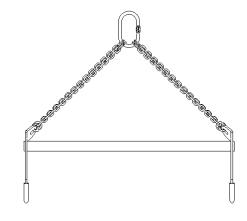
Product Features

Rated Capacity: 1,000lb.













Sliding RV Frame Lifting Clamp

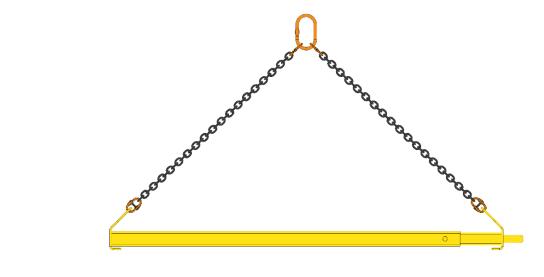


Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Rated Capacity: 2,000lb.
- 74" Min. / 90" Max Frame Width











Beam Frame Lifter

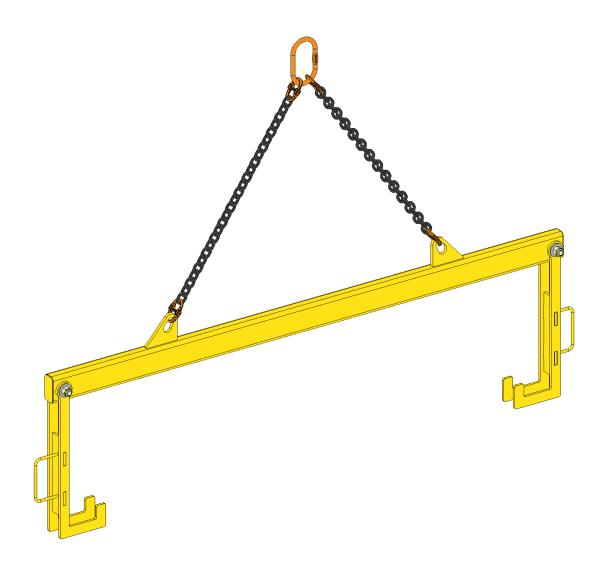


Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Rated Capacity: 4,000lb.
- Customizable Length







Big Board Lifter

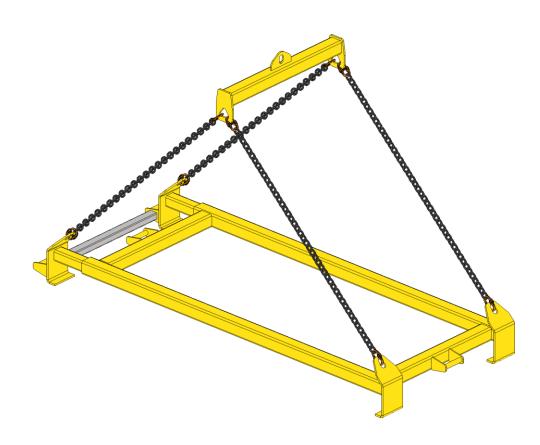


Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

Rated Capacity: Contact your sales rep







Adjustable Floor/Roof Lifter

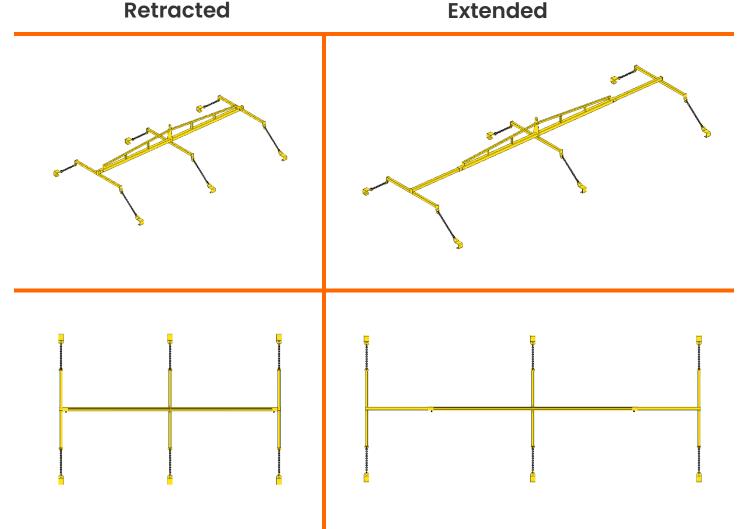


Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Rated Capacity: Contact your sales rep
- Adjustable Length







pwiworks.com

Side Wall Hook

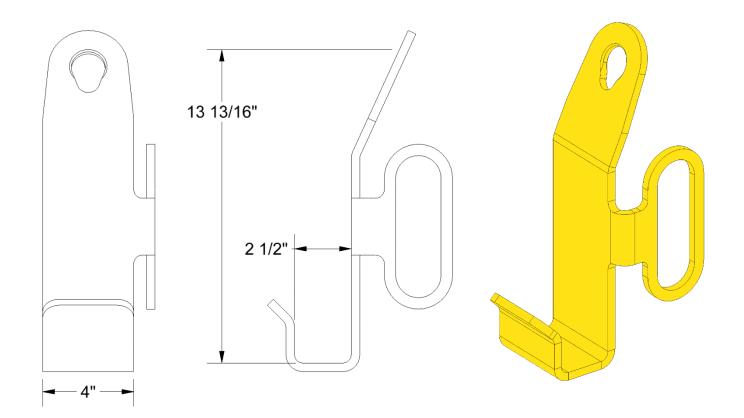


Product Description

Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Part Number: SH-15-1000
- Rated Capacity: 1,000lb.



- Part Number: SH-15-1000
- 1,000lb. Lifting Capacity

Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments.

Lifting Devices

Side Wall Hook

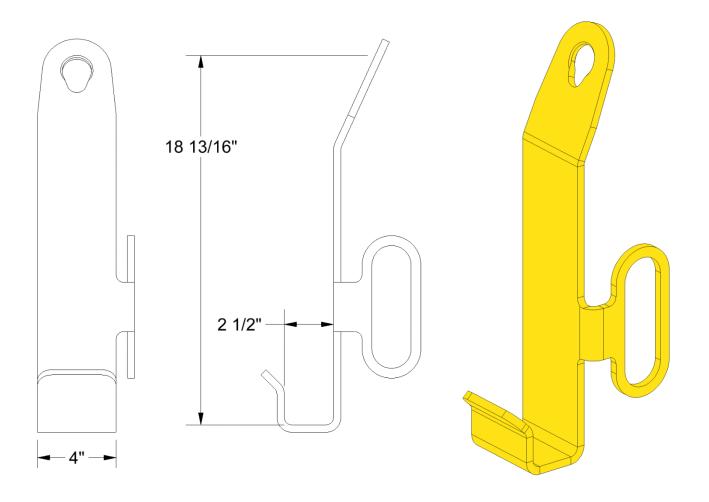


Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Part Number: SH-20-1000
- Rated Capacity: 1,000lb.







Side Wall Hook

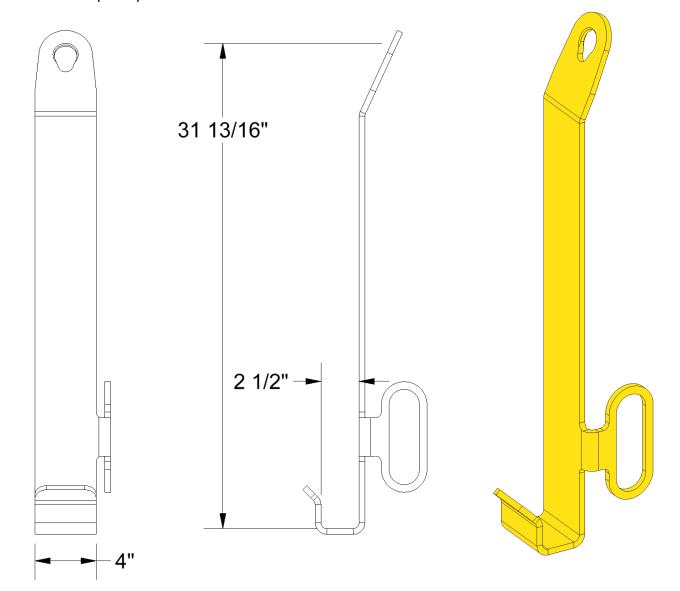


Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Part Number: SH-33-1000
- Rated Capacity: 750lb.







Pneumatic Sidewall Lifter



Product Description

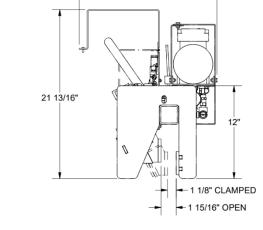
- The Pneumatic Sidewall Lifting Device is a remote-controlled clamping device that allows the operator to engage or disengage with the clamps. This below-the-hook lifter can be used to pick a variety of products such as RV Sidewalls, Plywood, Vinyl Sheets, etc.
- Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

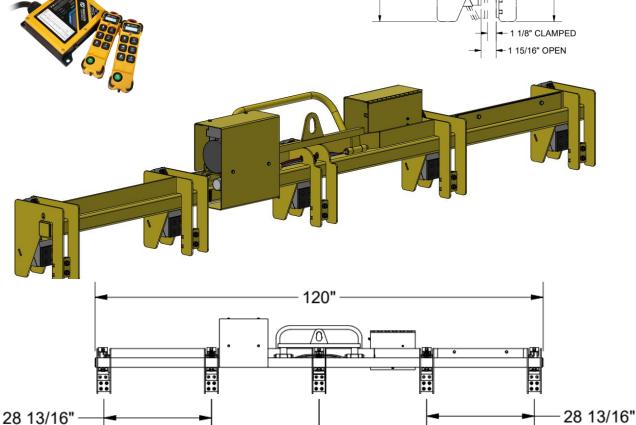
- · Rated Capacity: Contact your sales rep
- · Dual piston air compressor
- Self-contained air system
- · Clamps: 3 or 5

.ifting Devices

• Radio Controlled



17 13/16"



Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.





28 13/16"

28 13/16

LD Slideout Lifter

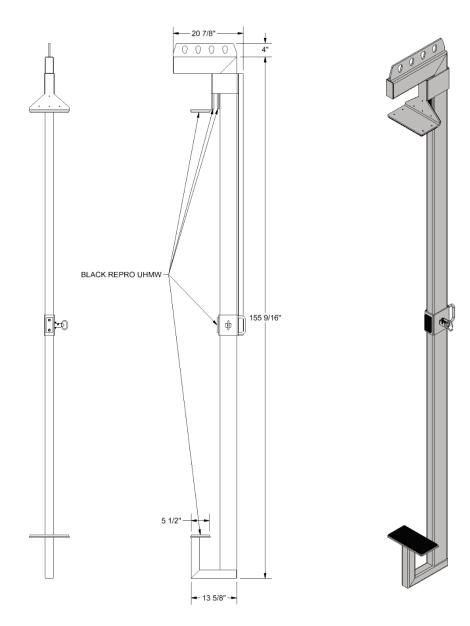


Product Description

- Slide Out Module Lifting Device
- Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Rated Capacity: 400 lbs.
- Vertical Clamping Design
- One hoist required







HD Slideout Out Lifter



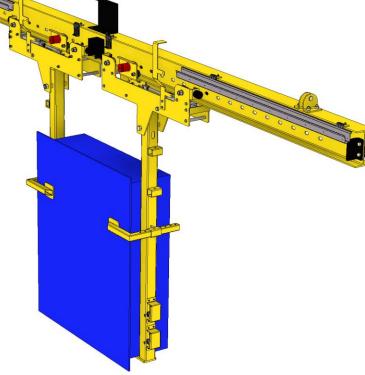
Product Description

- Designed in accordance with ASME B30.2 below-the-hook lifting devices.
- The HD Slide Out Lifter is used to secure a slide out from each end allowing for accurate positioning inside of the unit.
- Safety and efficiency are greatly improved through utilizing a tool that minimizes the dangers of this process.

Product Features

- Rated Capacity: Contact your sales rep
- Air Cylinders
- Horizontal Clamping Design
- 2 Hoists Required











Adjustable Roof Lifter

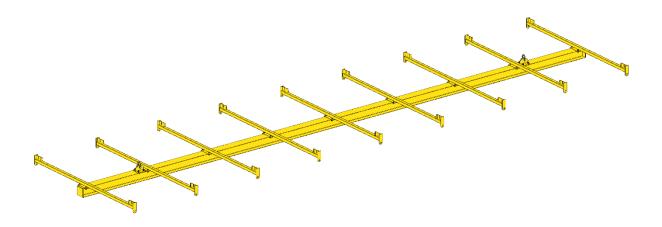


Product Description

 Roof lifting frame designed in accordance with ASME B30.2 below-thehook lifting devices.

Product Features

- · Rated Capacity: contact your sales rep
- For low headroom applications







Center Roof Lifter

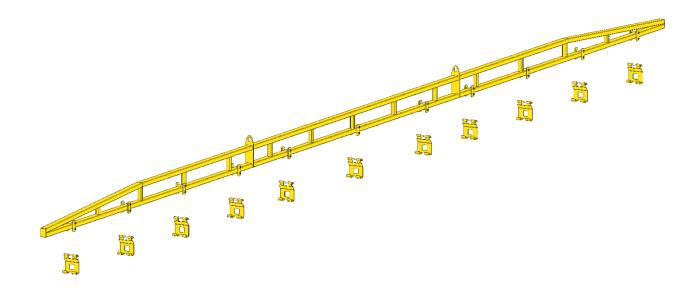


Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Rated Capacity: Contact your sales rep
- Customizable length
- Polyester sling supported hooks
- Adjustable hook placement







AC Lifter



Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

- Rated Capacity: 300 lb.
- Self-closing scissor design
- Spring tensioned lock arm







VORTEX Vacuum Lifters



Light Duty Vertical Lifter

Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

Rated Capacity: 250 lb.
Material Width: 4'-8'
Material Height: 4'-8'

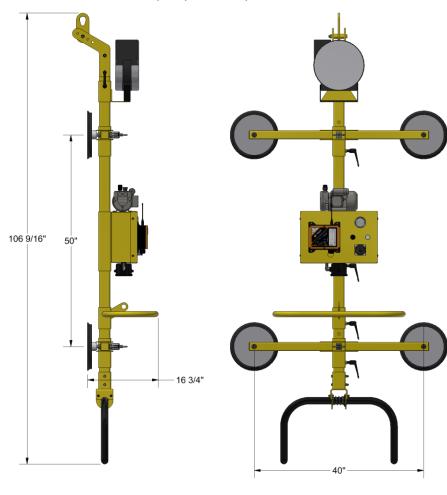
Pump Size: Medium FlowPump Voltage: 110/Single Phase

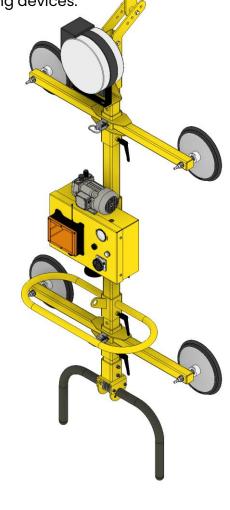
Pad Options: Silicone
Pad Placement: Semi-Fixed

Lifting Point: One

• Hook Point: Adjustable

Kickstand: Flip-up and Flip-down









VORTEX Vacuum Lifters



Light Duty Horizontal Lifter

Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

Rated Capacity: 1,000 lb.
Material Width: 6'-8'
Material Length: 15'-35'
Pump Size: Medium Flow

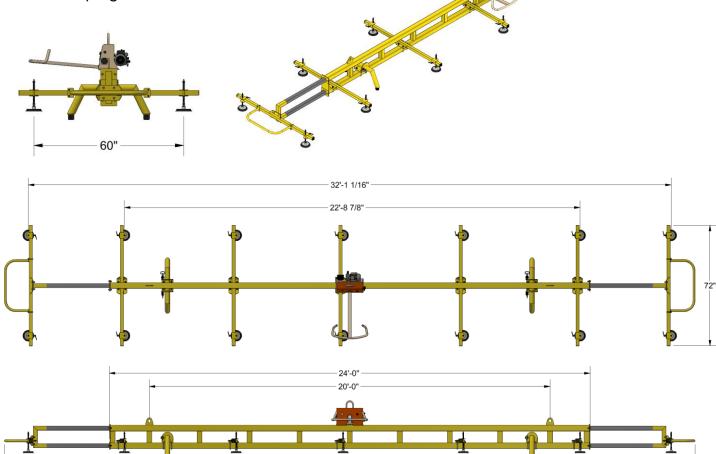
• Pump Voltage: 110/Single Phase or 480/3 Phase

Pad Options: Silicone, Foam
Pad Placement: Adjustable
Lifting Point: One or Two
Hook Point: Adjustable

• Kickstand: Flip-up and Flip-down

Telescoping

Mezzanines



Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.

34'-5 13/16'





VORTEX Vacuum Lifters



Heavy Duty Horizontal Lifter

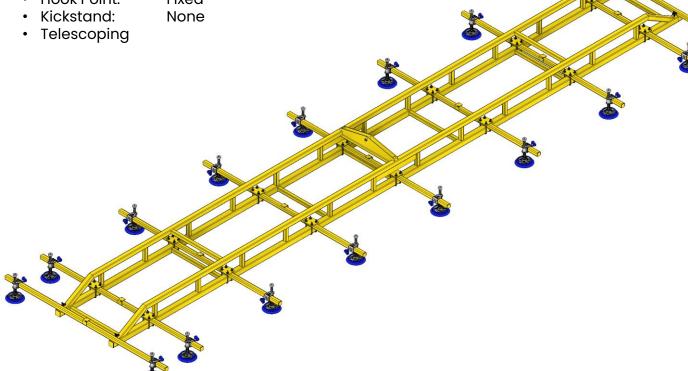
Product Description

• Designed in accordance with ASME B30.2 below-the-hook lifting devices.

Product Features

Rated Capacity: 1,000 lb.
Material Width: 8'-11'
Material Length: 40'-50'
Pump Size: High Flow
Pump Voltage: 480/3 Phase
Pad Options: Silicone, Foam
Pad Placement: Adjustable

Lifting Point: one or two
Hook Point: Fixed







Mezzanines Index



- **STRUCTURAL**SPACE Mezzanine Systems
- **APEX** VRC
- **Structural Deck**



Mezzanine Systems Index



- STRUCTURALSPACE Mezzanine Info Diagram
- Columns
- Crossmembers
- Bracing
- Guardrail
- Gates
- Stairs
- Material Chutes
- Footings
- Anchors
- Grout





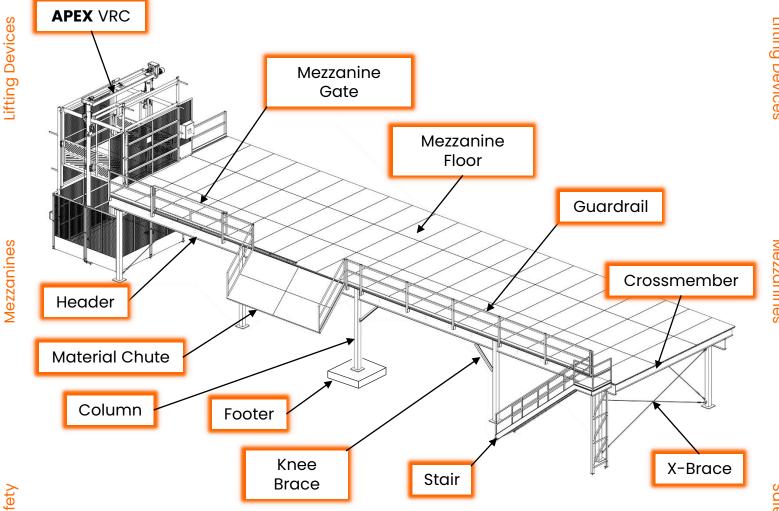
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STRUCTURALSPACE Mezzanine

Info Diagram

I Need More Space.

Investing in additional storage or manufacturing space is a big decision. At PWI, our goal is to simplify this process, allowing you to concentrate on your other responsibilities. Our sales and engineering teams get it. We do this every day, and we are here to help.









Lifting Devices

STRUCTURALSPACE Mezzanine



Design Process

First Step

Call PWI to get started. Send us a few pictures of the area and preferably a CAD layout of your facility, if available. Your CAD layout may not be 100% up to date, but this gives our team a jump start on the layout process.

Height

Is your ceiling height in your facility tall enough to add a mezzanine? The mezzanine floor structure depth varies based on your mezzanine column spacing but generally plan on a mezzanine floor structure depth of 16"-24". When you're standing on or below your new mezzanine will the clear height be sufficient?

Location

Mezzanines are an excellent solution for increasing your storage capacity. One key advantage of incorporating a mezzanine into your existing manufacturing space or new construction is the ability to store your products closer to the work cell or assembly line. Doing this will improve your efficiency and workflow, which will impact your bottom line.

Load/Unload

Vertical Reciprocating Conveyers (VRCs or material lifts) are a great option that PWI offers to load/unload your mezzanine. The location of these VRCs is crucial to your facility's overall efficiency. However, VRCs are not always necessary or the best solution depending on the size or amount of product. VRCs take up valuable floor space. Sometimes, the best solution is a mezzanine safety gate which allows a forklift to load/unload your mezzanine. In most situations, the best ROI is a combination of VRCs and mezz gates strategically located to optimize efficiency.

Engineering

Mezzanines

PWI has an in-house team of engineers who not only have a lot of experience but can help you maximize your ROI by providing calculations and specs on all aspects of the mezzanine project including structural calculations, site specific ASCE seismic reports, Hilti Profis anchor design, footer and slab analysis. PWI provides PE or SE stamped drawings in all 50 states.

















Design Process

Access

Stairs are used to access a mezzanine. Although code requirements for stairs can be complex, a general guideline is to have two stairs for every mezz, and you should always be within 75' of a stair at any point on a mezzanine. PWI has tremendous capacity in options and customization for stairways. Check out stairzone.com (a division of PWI) to place a stair order and receive an instant quote and custom drawing for your application.

S STAIR ZONE

Flooring

ifting Devices

Choosing the correct flooring type is crucial to avoiding problems in the future. PWI has inhouse roll forming for B Deck and Form Deck. This is a big advantage which allows us to design and build custom mezzanines while staying on schedule. You can order decking for your own project on PWI's website.

Will you be using a pallet jack on the mezzanine? Is there a chance of the mezzanine deck getting wet from products are coming in with snow/water causing the mezz floor to be wet?

Concrete with form deck mezzanine flooring is the best most durable option for any application, it is also the most expensive and has the highest dead load which will always require large footers.

AdvanTech on B Deck is a good option for a variety of applications and can withstand some moisture.

ResinDek on B Deck is a good option for lighter applications.

Steel Bar Grating is a great option for equipment platforms and other applications where a pallet jack will not be used.













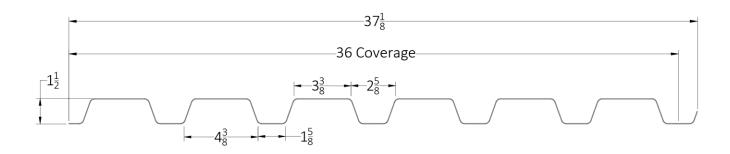




Subfloor Options

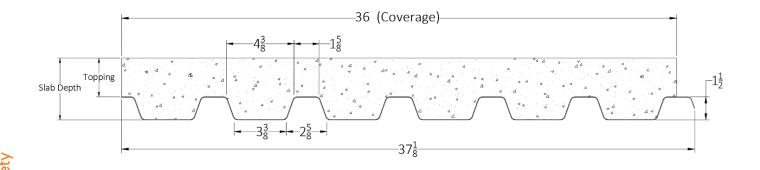
B Deck

- •1.5" B Deck Specs PDF
- •Steel Grade: A1011 CS Type B



Form Deck

- •Form Deck Specs PDF
- •Steel Grade: A1011 CS Type B

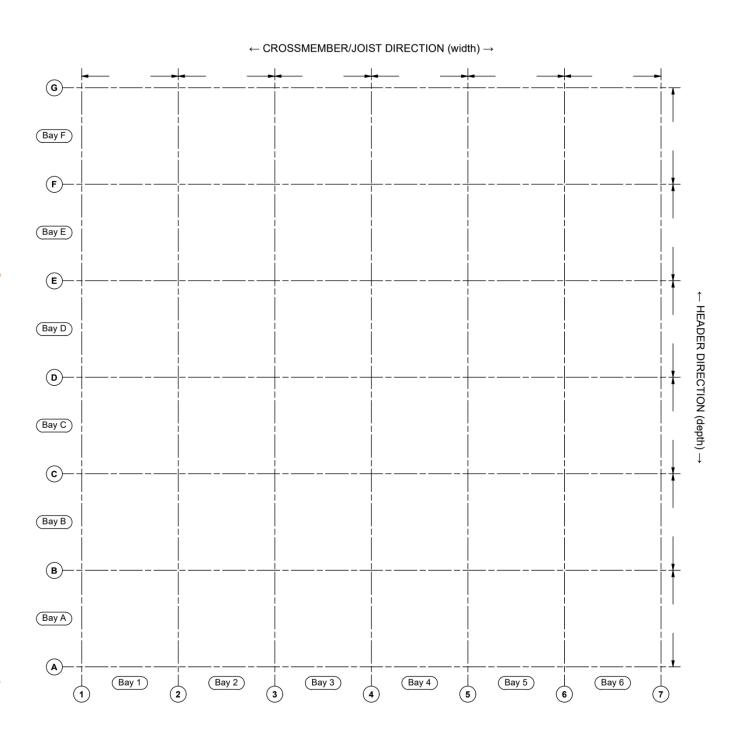






Design Sketch Page



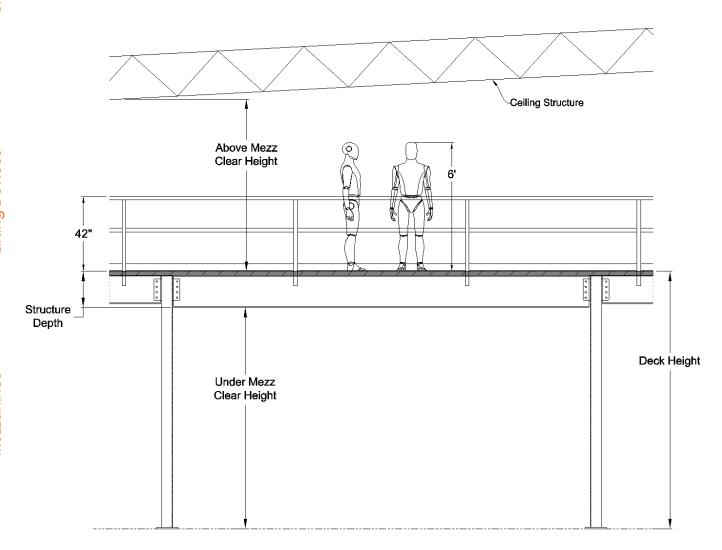








Height Constraints









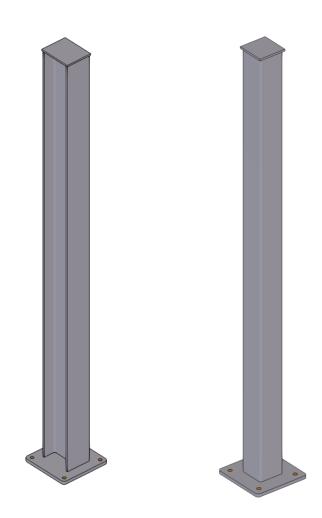
Column Options

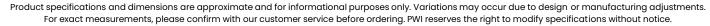
W-Beam

- More economical vs. HSS tubes
- Used in a system where moment connections are required
- Used in a braced mezzanine

HSS Tube

- Used in freestanding system
- Used in high seismic applications











Crossmember Options

W-Beam Crossmembers

 Allows for a low deck profile without compromising on longer column spans

Bar Joists

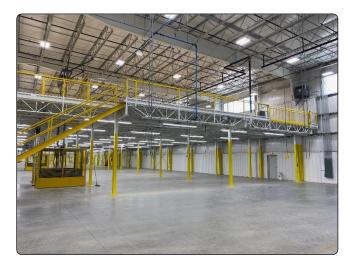
Lifting Devices

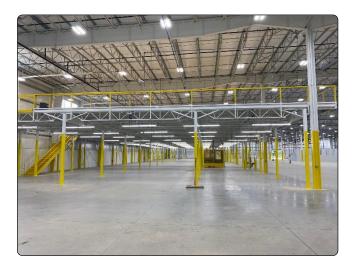
Mezzanines

- Accommodates large spans or projects that require vast, unobstructed floor space
- Allows the installation and access of sprinkler systems, electrical conduit, and mechanical equipment









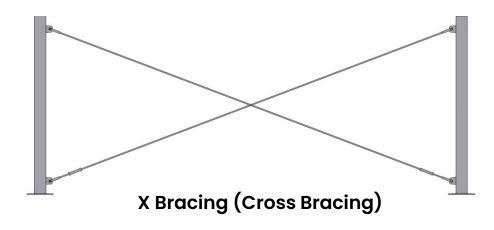




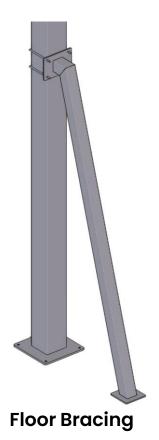


Bracing Options

Brace to Existing Structure (Not Shown)













Bolted Guardrail

Product Description

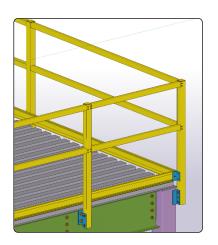
Bolt-on guardrail system that allows for simple, flexible installation.

Product Features

Lifting Devices

- · Customizable lengths and configurations for many applications.
- Avoids the need to weld guardrail components on-site.















Welded Guardrail

Product Description

• Weld-on guardrail sections for a range of mezzanine scenarios.

Product Features

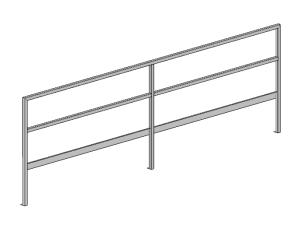
Mounting Types

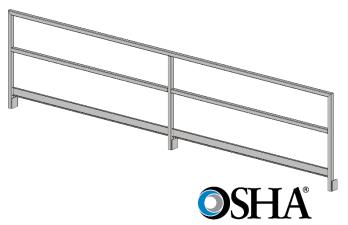
Lifting Devices

- · Bare Post
- · Base Plate
- Flag/Tab
- · Adjustable post and top/mid rail member sizes















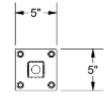
Surface Mounted Guardrail

Product Description

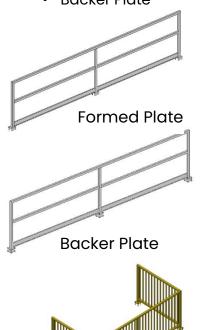
- Top mounted guardrail applications for concrete, wood, or steel decking. Surface Mounted Guardrail has splicing options to accommodate any onsite installation scenario:
 - Welded
 - Formed Plate using Self-Tapping Screws
 - Flat Bar using Self-Tapping Screws
- PWI's guardrail is compliant with OSHA 1910.29(b).

Product Features

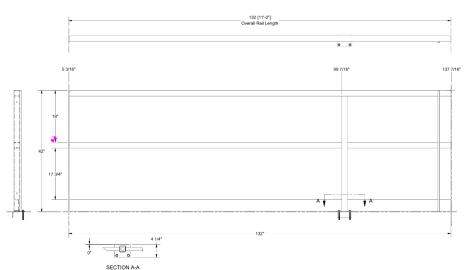
- Flooring Types
 - B Deck / 3/4" Wood Decking
 - B Deck / Tread Plate
 - Tread Plate
 - Concrete
- Mounting Types
 - Base Plate
 - 2 Holes
 - 4 Holes
 - Formed
 - · Backer Plate



SECTION A-A



4 Hole









Mesh Guardrail

Product Description

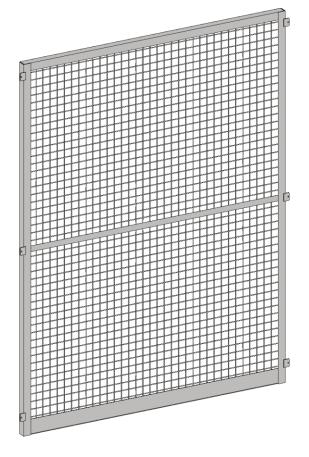
• Steel mesh guardrail is commonly used to prevent materials from falling from the mezzanine level causing injury.

Product Features

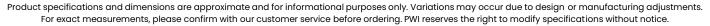
- · Customizable Height
- · Modular Mesh Panels

















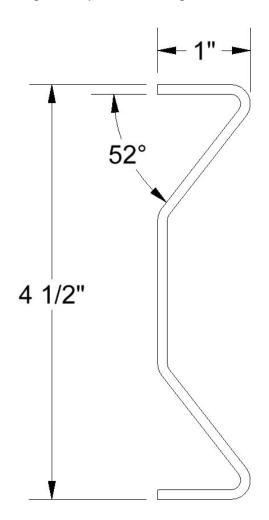
M Toe Kick

Product Description

 This toe kick is compatible with bolt-on guardrail post or weld-on guardrail post. M toe kick can be cut to length and attached to the mezzanine guardrail post during installation.

Product Features

- 12ga. Steel
- Roll Form or Press Brake
- Weld In or Screw On
- · Resistant to Warping During Hot Dip Galvanizing









L Toe Kick

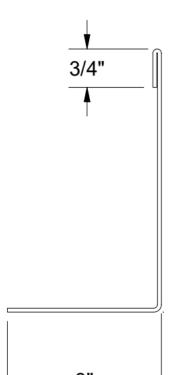
Product Description

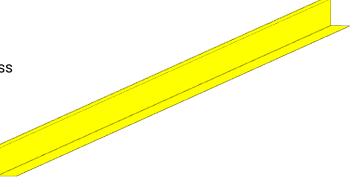
The L Toe Kick is a great option for when looks matter. The tall leg
of the "L" can be used to cover the flooring and sub flooring to
provide a sleek, uniform look.

STRUCTURALSPACE Mezzanine

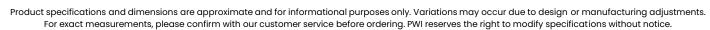
Product Features

- 14ga. Steel
- Press Brake
- Screw On
- · Installed under mezzanine decking
- · Adjustable height for varying decking thickness













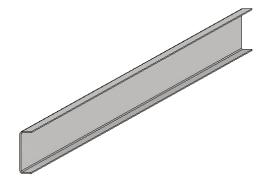
C Toe Kick

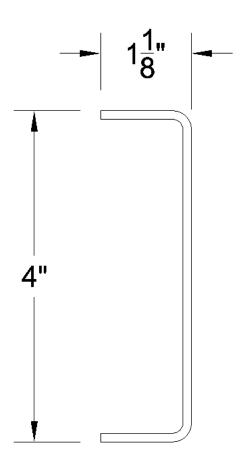
Product Description

 The C Toe Kick is the most economical option of the toe kick styles that PWI offers, but it is also limited in its applications.

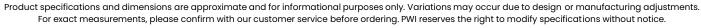
Product Features

- 12ga. Steel
- Roll Form or Press Brake
- · Weld In















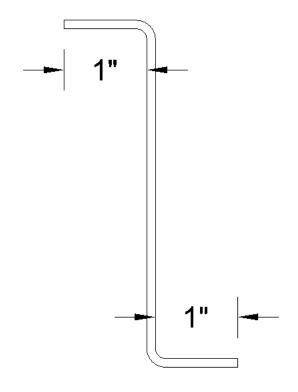
Z Toe Kick

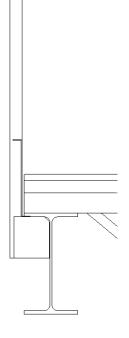
Product Description

• The Z Style Toe Kick is specifically designed to work to provide a nice look that is compatible with weld-on guardrail posts.

Product Features

- 12ga. Steel
- Press Brake
- Weld In
- Adjustable height to cap beam or joist ends













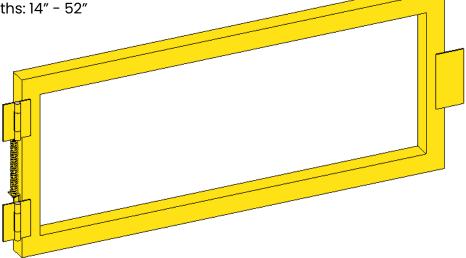
Swing Gate

Product Description

- Simple safety access gate, custom designed for most common mezzanine exit point widths.
- Commonly used for mezzanine to work platform transfers.

Product Features

- Self-closing
- Opening Widths: 14" 52"





STRUCTURALSPACE







Flip Gate

Product Description

Gate option that provides a guarded edge at all times.

Product Features

- Provides safe area for material access
- Easy operation
- Optional: air powered lift or manual lift

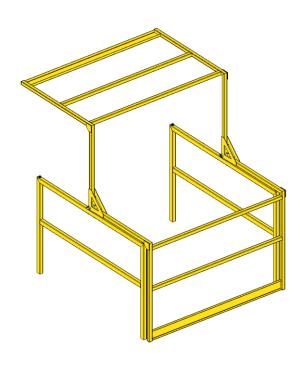












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Mezzanines



Manual Drop Gate

Product Description

Manual Mezzanine Drop Gate

Product Features

- · Minimize gate footprint
- Provides access for material handling







Lifting Devices

STRUCTURALSPACE Mezzanine



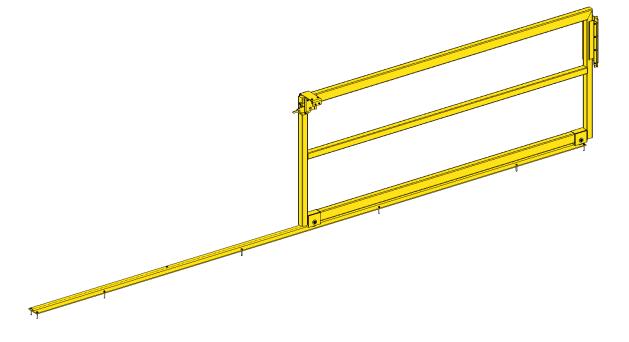
Manual Rolling Gate

Product Description

· Our economical access solution.

Product Features

- · Provides easy access for pallets and material
- Max Opening: 16'













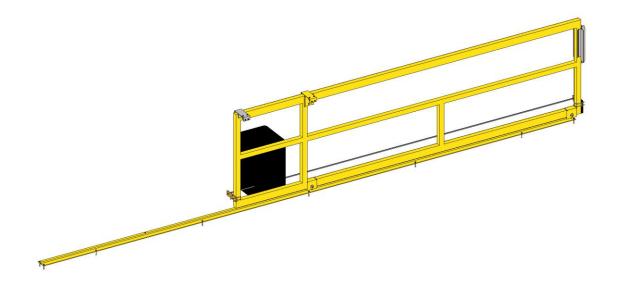
LD Motorized Rolling Gate

Product Description

· Upgraded version of the manual gate with motorized operation.

Product Features

- · Provides easy access for pallets and material
- · Max Opening: 16'













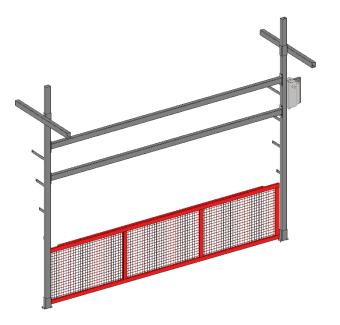
Motorized Overhead Gate

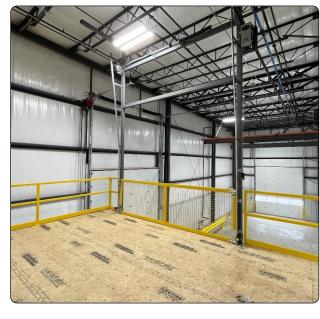
Product Description

· Garage door style overhead gate with motorized operation.

Product Features

- · A great option for securing and pallet/material loading zones
- Operable from floor or mezzanine level













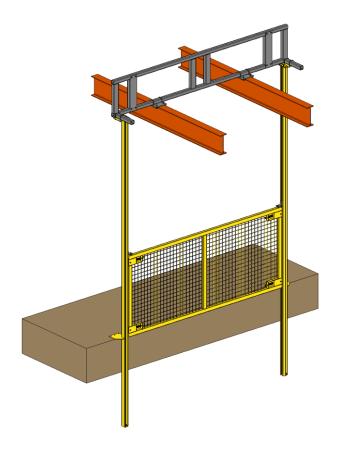
Motorized Drop Gate

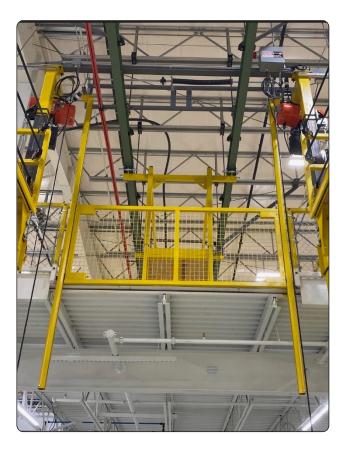
Product Description

• Specialized design allowing for the transfer of material through the gate with an overhead crane system.

Product Features

- · Minimize gate footprint
- Provides access for material handling











Material Chute

Product Description

Cranes

Lifting Devices

Mezzanines

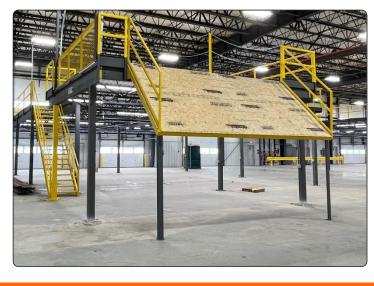
- Material delivery chute designed to send components to the production line directly from the mezzanine level.
- These are often combined with a fall protection system for the increased safety of workers at the mezzanine level.

Product Features

- · Optional mounting: cantilever, column mounted
- Quick access to stored products and materials















Material Chute

Product Description

 Gain additional space all while increasing production efficiency through pairing a mezzanine with our manual or motorized under running crane systems.

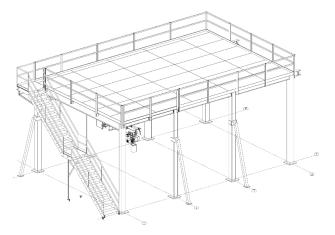
Product Features

- Capacity: 500lbs. 1,000lbs. 1 Ton, 2 Ton, 3 Ton
- Span: 5'-60'

Cranes

Lifting Devices













Outrigger

Product Description

- A mezzanine outrigger is a perfect solution to provide working level access to any PWI work platforms or production line process.
- This feature allows you to main a satisfactory mezzanine clearance, while improving safety and access to other processes at the same time.

Product Features

Lifting Devices

- Optional Mounting: Cantilever, Column Mounted
- · Access production area without sacrificing storage









Mezzanines

Lifting Devices

STAIR ZONE Configurations



Straight





Switchback



Crossover







S STAIR ZONE



Stair Configurations







Switchback



Crossover

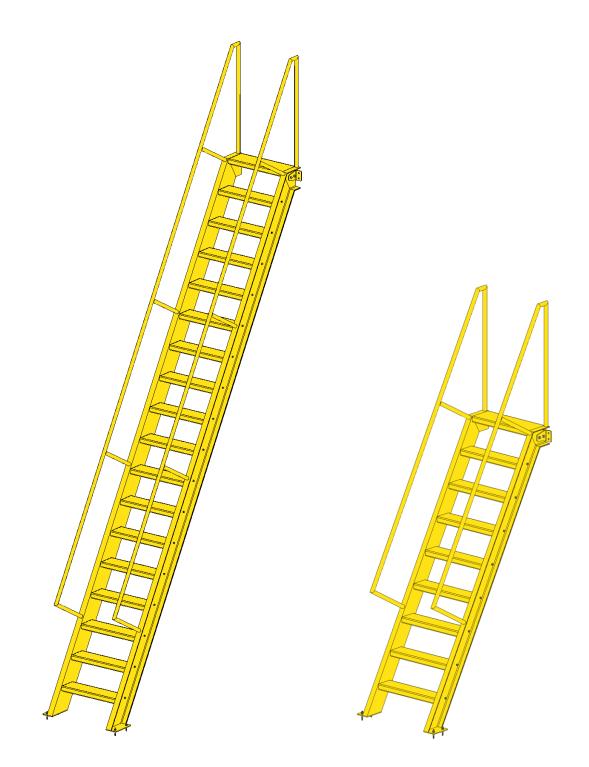


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Mezzanines









Ship Stairs



1910.25(e)

Ship stairs. In addition to paragraph (b) of this section, the employer must ensure ship stairs (see Figure D-9 of this section):

1910.25(e)(1)

Are installed at a slope of 50 to 70 degrees from the horizontal;

1910.25(e)(2)

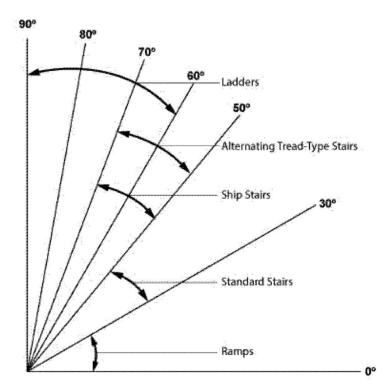
Have open risers with a vertical rise between tread surfaces of 6.5 to 12 inches (17 to 30 cm);

1910.25(e)(3)

Have minimum tread depth of 4 inches (10 cm); and

1910.25(e)(4)

Have a minimum tread width of 18 inches (46 cm).



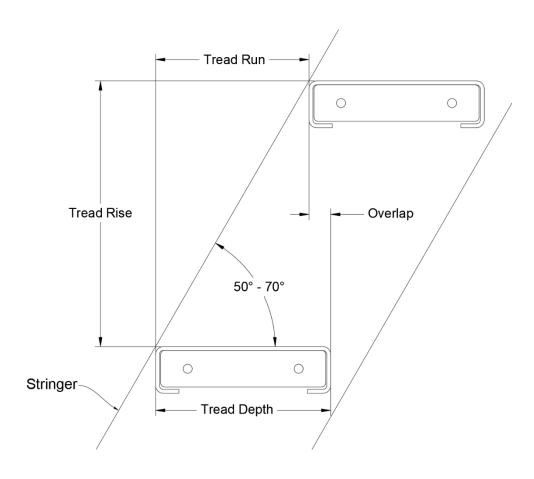






OSHA Ship Stairs Specs:	
OSHA Degree Range:	50° - 70°
OSHA Tread Rise:	6.5" – 12"
OSHA Minimum Tread Run:	4"
OSHA Minimum Tread Width:	18"

PWI Ship Stairs Guidelines:			
65°			
240"			
11"			
5.25"			
18"			
36"			
Tread Run + .5" as possible.			
.5" as possible.			









Choose Your Tread Type





Diamond Plate Open Riser

• 7-9" rise

Lifting Devices

- 9 1/2" run
- Popular for industrial
- Embossed diamond for traction and durability



Bar Grating Open Riser

- 7-9" rise
- 91/2" run
- Popular for industrial
- · Anti-slip serrated grating



- **Bar Grating Partially Closed Riser**
 - 6-7" rise
 - 11" run
 - Popular for industrial
 - · Anti-slip serrated grating

IBC Compliant



Diamond Plate Closed Riser

- 6-7" rise
- 11" run
- Popular for industrial
- Embossed diamond for traction and durability





Poured Pan Closed Riser

- 6-7" rise
- 11" run
- Popular for contractors
- Ultimate sturdiness with concrete





Diamond Plate "Thick Profile" **Open Riser**

- 6-7" rise
- 11" run
- · Popular for industrial
- Embossed diamond for traction and durability







Choose Your Railing Type

















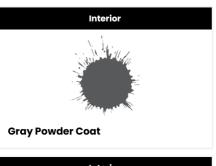


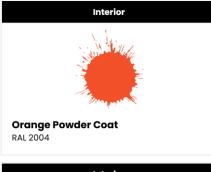


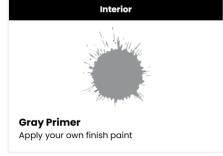


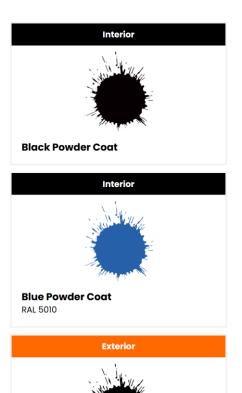
T

Choose Your Coating













* Adds 2 weeks to standard lead time

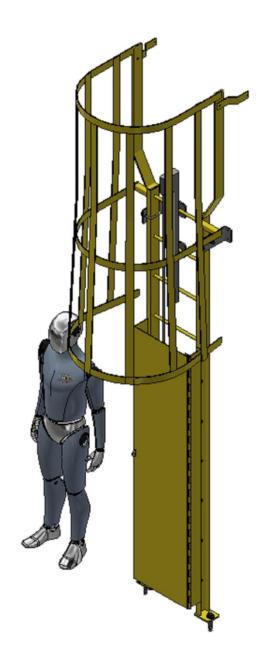
Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.

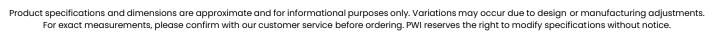
Black Epoxy Coating





Ladder







Columns



Product Description

- 6 different types of columns are used for a variety of applications:
- Cranes
- Mezzanines
- Fall Protection

Gusseted Pipe Unbraced 2 Tone Paint	Tube Braced 2 Tone Paint	Gusseted Tube Unbraced 2 Tone Paint	Tapered Box Unbraced Height: 20' - 30'	Tapered Beam Unbraced Max Height: 20'	W Beam Braced

Column Placement

Many times, the existing concrete conditions dictate where a column can be placed to due to minimum edge distance that the anchor can be from edge of slab.





pwiworks.com

Column Footing



Product Description

For high-capacity crane systems or mezzanines, footers are necessary to support the columns. Using a variety of structural calculation software, PWI ensures safety while keeping the footprint as small as possible.

Engineering Notes:

THE ENGINEER HAS ASSUMED 3000 PSF SOIL BEARING. THE OWNER IS RESPONSIBLE FOR ANY INFORMATION THAT WOULD AFFECT THIS ASSUMPTION.

ALL CONCRETE POURED WITH A SLUMP OF FOUR.

CONCRETE TO BE 3000 PSI IN 28 DAYS AND WORK IS TO CONFORM CRSI AND PSA SPECIFICATIONS.

ANY FILL MATERIAL UNDER BEARING LOCATIONS TO BE COMPACTED TO 100% STD. PROCTOR AND OF APPROVED MATERIAL.

ANY FILL MATERIAL REQUIRED AT OTHER LOCATIONS TO BE COMPACTED TO 95% MODIFIED PROCTOR AND MEET PCA RECOMMENDATIONS, OR PER SOIL INVESTIGATION REPORT.

ALL REINFORCING STEEL TO BE GRADE 60 PER ASTM SPECIFICATIONS.

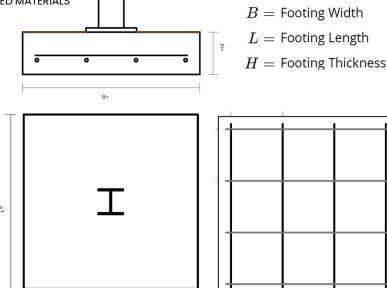
EXPANSIONS JOINTS AND CONTROL JOINTS TO BE PLACED AS RECOMMENDED BY SCI, CRS, PCA, ACSI, LOCAL CODES, AND THE STEEL BUILDING MANUFACTURER.

ALL UNSPECIFIED CONSTRUCTION TO MEET ALL STATE AND LOCAL CODE

ALL MATERIALS MUST BE APPROVED AND LISTED FOR THEIR INTENDED

ALL MATERIALS LISTED MAY BE SUBSTITUTED WIT	H APPROVED MATERIALS
OF EQUAL OR BETTER QUALITY.	

Footer Size (ft)	Kips	Thickness (in.)	3/4" (#6) Rebar
L/B		Н	Qty.
3.0	25	12	3
3.5	34	12	4
4.0	44	12	4
4.5	53	12	5
5.0	68	14	5
5.5	82	14	6
6.0	98	16	6
6.5	115	17	7
7.0	130	18	8
8.0	168	21	9
9.0	212	23	11
10.0	260	26	13













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Column Footing



Concrete Footer Install Process:

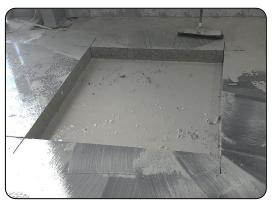
- Cutting
- Removing Slab
- Excavation
- · Place Rebar
- Pour

Cranes

· Finish

















Column Footing

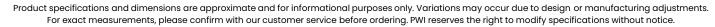


Monolithic Concrete Footer Install Process:

- Excavation
- Place Rebar
- Pour with slab pour
- Finish with slab









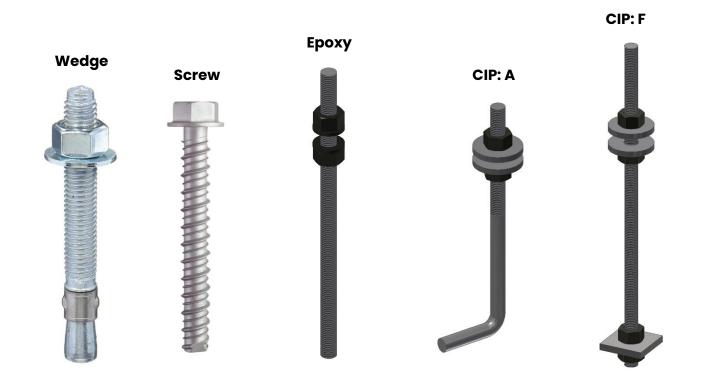


Column Anchors



Product Features

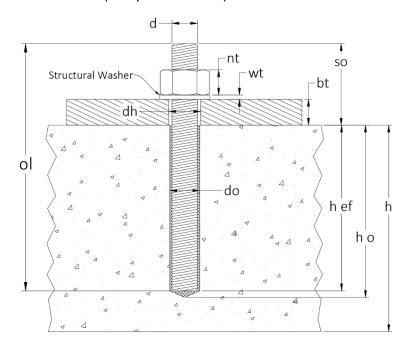
- Wedge Anchor
 - Post-installed anchor
 - · Used for light duty applications
- Screw Anchor
 - · Post-installed anchor
 - · Used for light duty applications
- Epoxy Anchor
 - Post-installed anchor
 - Used for medium to heavy applications
- CIP Anchor
 - Type A: L Anchor
 - Type F: Square Plate Washer
 - · Cast-in-place anchor installed into wet concrete
 - · Used for heavy duty applications or when large embedment depths are required



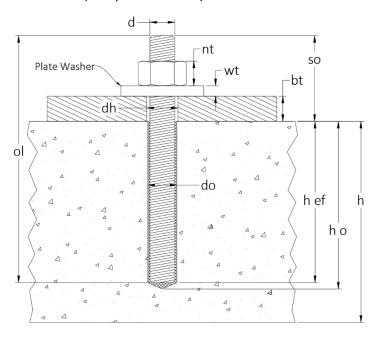




Form ID: EP1
Epoxy Anchor Specs



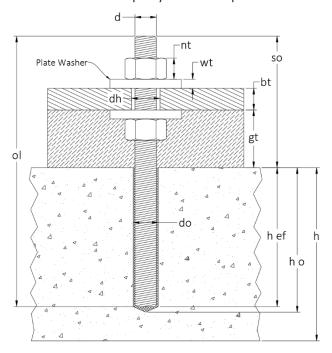
Form ID: EP2
Epoxy Anchor Specs



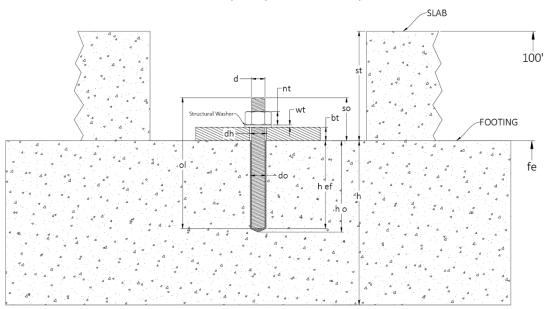




Form ID: EP3
Stand Off Epoxy Anchor Specs



Form ID: EP4
Recessed Epoxy Anchor Specs





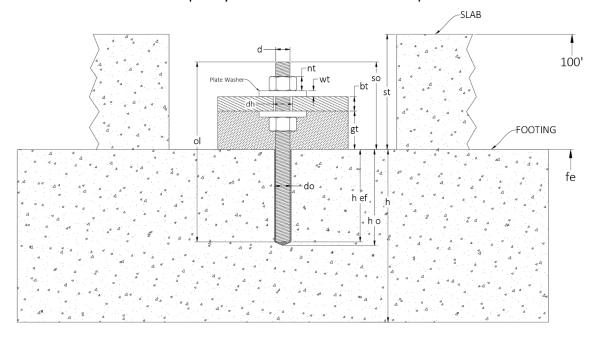


Lifting Devices

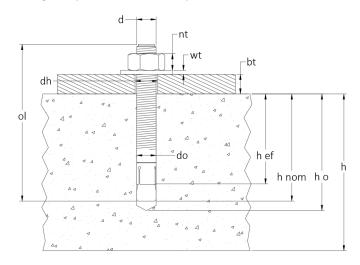


Form ID: EP5

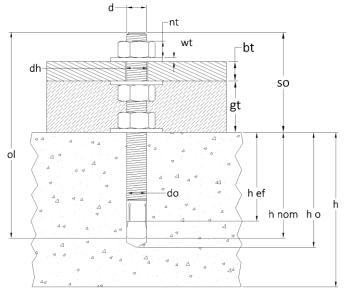
Recessed Epoxy Stand Off Anchor Specs



Form ID: WE1 Wedge/Expansion Anchor Specs



Form ID: WE2 Stand Off Wedge/Expansion Anchor Specs



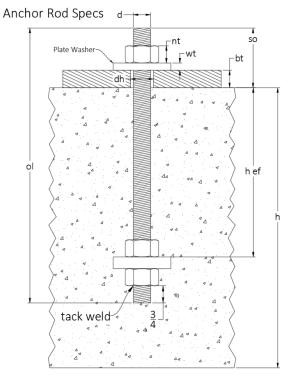




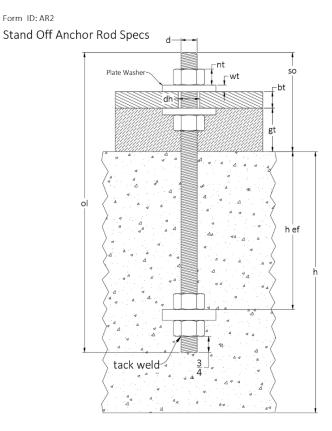
Column Anchors



Form ID: AR1



Form ID: AR2

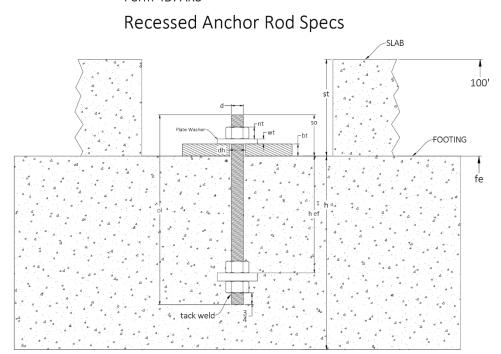




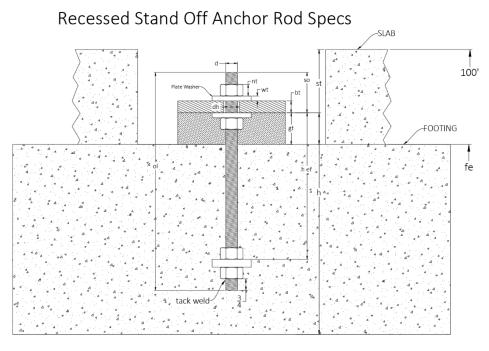


Lifting Devices

Form ID: AR3



Form ID: AR4

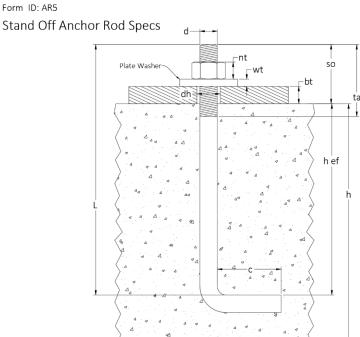




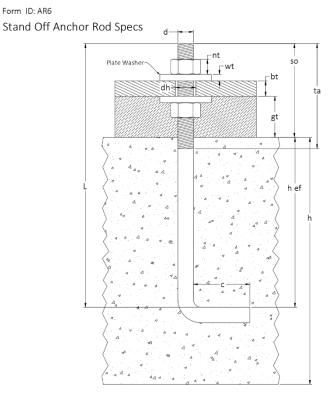


Column Anchors





Form ID: AR6

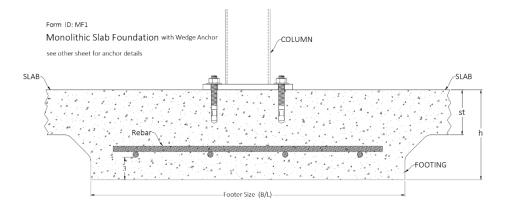


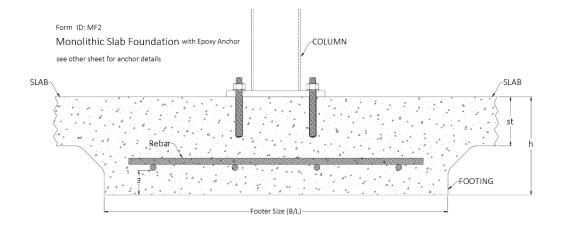


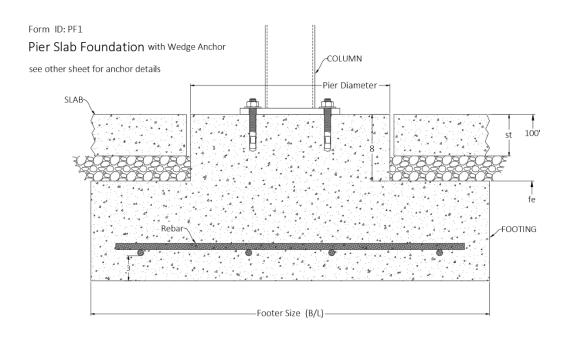


Column Anchors









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Mezzanines

Column Grout



Grout Installation: If the steel column is already fixed with setting nuts, and a wood form is used to contain the grout during the installation process, the procedure can be adjusted as follows:

Materials and Tools Needed:

- Non-shrink grout
- Steel column with setting nuts
- Wood formwork
- Clean water
- Mixing container or mixer
- Trowel
- Shims
- Level
- Measuring tape
- Safety gear (gloves, safety glasses, and dust mask)

Procedure:

1. Preparation:

- a. Ensure the steel column with setting nuts and the wood formwork are in place and properly aligned.
- b. Check the dimensions and layout of the base plate and verify that it is correctly positioned within the wood form.

2. Mixing the Non-Shrink Grout:

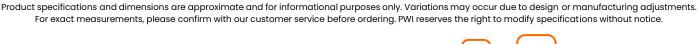
- a. Follow the manufacturer's instructions for the appropriate water-to-grout ratio.
- b. Place the non-shrink grout into a clean container or mixer.
- c. Gradually add water while mixing until you achieve a smooth, lump-free consistency. Do not overmix.

3. Placing the Wood Formwork:

- a. Set up the wood formwork around the base of the steel column to create a containment area for the grout.
- b. Ensure that the formwork is securely in place and that there are no gaps or leaks through which the grout could escape.

4. Pouring the Non-Shrink Grout:

- a. Carefully pour the mixed grout into the containment area created by the wood formwork.
- b. Work quickly but carefully to ensure the grout fills the space evenly and covers the setting nuts.
 - c. A hopper or funnel may be helpful in this step.







Column Grout



5. Positioning the Steel Column Base Plate:

- a. Place the steel column base plate onto the freshly poured grout within the wood form.
 - b. Ensure that it is properly aligned with the setting nuts and the formwork.
 - c. Use a level to confirm that the base plate is level in all directions.

6. Shimming (if necessary):

- a. Use shims as needed to make precise adjustments to the position and level of the base plate.
 - b. Insert shims under the base plate until it is perfectly level.
- c. Or use setting nuts to adjust column to confirm it is level and at the correct elevation.

7. Curing:

- a. Allow the grout to cure according to the manufacturer's recommendations. This may involve keeping the area moist and covering it to prevent rapid drying.
 - b. Curing time can vary, but typically it takes a few days to achieve full strength.

8. Final Inspection:

- a. After the grout has fully cured, check the base plate for any movement or settlement.
 - b. Verify that the column base plate is securely in place and level.

9. Remove Wood Formwork:

a. Carefully remove the wood formwork from around the grouted area.

10. Clean Up:

a. Clean all tools and equipment promptly to prevent grout from hardening on them.

Before applying any load to the steel column base plate, you should wait until the grout has fully cured, and the final inspection confirms that it is secure and level. The loading list and specific loading requirements will depend on the project's engineering specifications and calculations. Always consult with a structural engineer or follow the project's design documentation for accurate guidance.





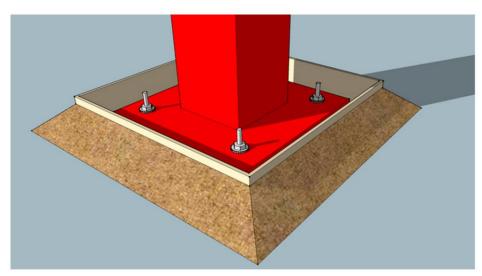






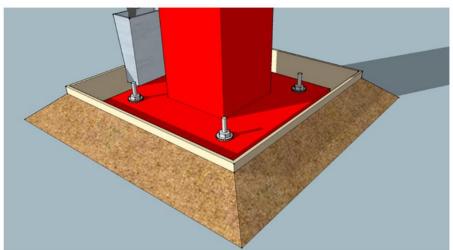


STEP 1 - CREATE A FORMWORK AROUND THE BASEPLATE



This can be done using timber with a sand haunching to keep it in place while the non-shrink grout is poured. Leave space around the perimeter, so the grout can be seen emerging from the opposite side and rise to the level required.





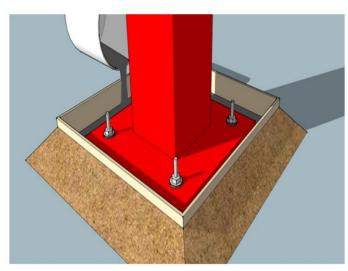
Pour the non-shrink grout into a hopper. Do not move the hopper and pour from any other location, because this can lead to air-pockets forming beneath the plate, meaning the loading from the steel will not be transferred evenly to the structure beneath. A hopper is especially useful if the baseplate is large, and the non-shrink grout has to flow a long distance. It builds a head of pressure that forces the grout beneath the plate at an even rate.





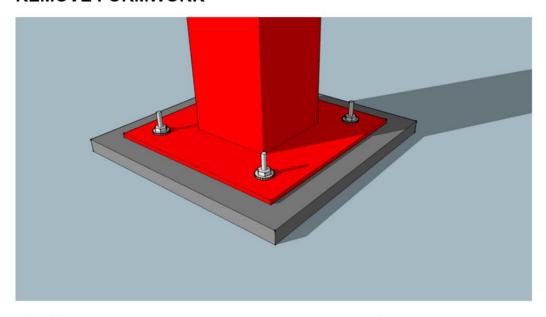
Ti

ALTERNATIVE STEP 2 - POUR THE GROUT DIRECTLY FROM THE MIXING VESSEL



When pouring the non-shrink grout directly from the mixing vessel it is important to pour from one point only. Moving position while pouring can lead to air pockets forming beneath the baseplate. This means that load will not be transferred evenly through to the structure below.

STEP 3 - WAIT FOR NON-SHRINK GROUT TO GO OFF THEN REMOVE FORMWORK



Once the non-shrink grout has gone off enough, remove the formwork.

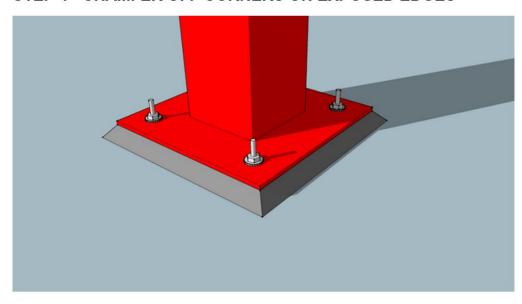




Column Grout

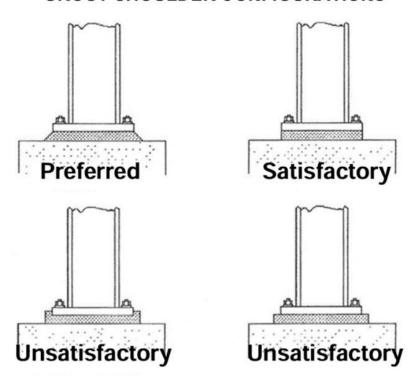






Before the grout has gone off completely cut back the exposed corners to create a neat chamfer.

GROUT SHOULDER CONFIGURATIONS









Non-Shrink General Purpose Grout

PRODUCT No. 1585-01, 1585-51

PRODUCT DESCRIPTION

QUIKRETE® Non-Shrink General Purpose Grout is a high-strength, non-metallic, non-shrink grout designed for grouting and general construction applications. It can be mixed to a fluid, flowable, or plastic consistency requiring only the addition of clean water.

PRODUCT USE

Typical applications for QUIKRETE® Non-Shrink General Purpose Grout include grouting of:

- Steel columns
- Bearing plates
- Precast concrete
- Keyway Grouting
- Other anchoring or void filling conditions that require high strength
 The non-shrink characteristics of Non-Shrink General Purpose Grout make it stable and capable of handling high load transfers.

NOTE: This product is not for use in precision grouting of machinery. (For precision grouting of machinery use QUIKRETE® Non-Shrink Precision Grout No. 1585-00)

SIZES

• 50 lb (22.6 kg) bags

YIELD

 Each 50 lb (22.6 kg) bag will yield 0.45 ft³ (12.7 L) at flowable consistency

TECHNICAL DATA APPLICABLE STANDARDS

- ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
- ASTM C827 Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures
- ASTM C939 Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)
- ASTM C1090 Standard Test Method for Measuring Changes in Height of Cylindrical Specimens from Hydraulic-Cement Grout
- ASTM C1107 Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
- ASTM C1437 Standard Test Method for Flow of Hydraulic Cement Morter
- US Army Corps of Engineers (COE) CRD-C 621 Specification for Non-Shrink Grout

Revised: 11/7/2025

DIVISION 3

03 62 00 Non-Shrink Grouting



- ICRI Guideline No. 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair
- ACI 305R Guide to Hot Weather Concreting
- ACI 306R Guide to Cold Weather Concreting

PHYSICAL/CHEMICAL

QUIKRETE® Non-Shrink General Purpose Grout complies with the physical requirements of ASTM C1107 and CRD 621. Typical results obtained for QUIKRETE® Non-Shrink General Purpose Grout, when tested at 73.5 °F \pm 3.5 °F (23.0 °C \pm 2.0 °C), are shown in Table 2.

INSTALLATION

SURFACE PREPARATION

Wear the appropriate personal protective equipment. All grouting surfaces should be clean and free of foreign substances including corrosion, if present on steel. Remove all spalled areas and areas of unsound concrete. Preparation work done on the grouting surfaces should be completed by high pressure water blast, breaker, hammer, or other appropriate mechanical means to obtain a properly prepared surface. Saturate repair area with clean water before grouting to ensure SSD condition. No standing water should be left in the repair area. Refer to current ICRI Guide 310.2R for additional surface preparation information.

MIXING

WEAR IMPERVIOUS GLOVES, such as nitrile when handling product.

QUIKRETE® Non-Shrink General Purpose Grout should be mechanically mixed for a minimum of 3 minutes using a 5 gallon (19 L) bucket with a ½ in (13 mm) drill and paddle mixer. For larger applications, a standard mortar mixer may be used. Add only enough water to achieve the preferred consistency listed in Table 2. Add the powder to the water and mix to a lump free consistency. Typical starting water contents can be found in Table 1.

APPLICATION

WEAR IMPERVIOUS GLOVES, such as nitrile when handling product. Place the grout quickly and continuously using proper consolidation techniques when possible (i.e. light rodding, vibrating, tamping, etc.) to





Column Grout



eliminate air bubbles. The typical application depth of QUIKRETE® Non-Shrink General Purpose Grout is up to 3 inches (75 mm). For applications over 3 inches (75 mm) in depth, it is preferable to extend the product with high quality 3/8 in (9.5 mm) pea gravel, at a rate of approximately 25 pounds (11.3 kg) of gravel per 50 pound (22.6 kg) bag of QUIKRETE® Non-Shrink General Purpose Grout. For many applications, it may be placed up to 6 inches (150 mm) in depth without the extension. When placing at depths over 3 inches (75 mm) and the surface area is over 2 ft² (0.19 m²), the product should be extended. For all these applications, care should be taken to not overwater, which may cause segregation.

CHRING

A damp cure of at least 3 days is necessary to control the non-shrink characteristics and maintain strength levels.

PRECAUTIONS

- Additions of cement or other materials will eliminate the designed product qualities
- Water quantities may be affected by temperature, mixing method and batch size
- QUIKRETE® Non-Shrink General Purpose Grout should not be retempered
- · Mix no more grout than can be placed in 25 minutes
- . Follow ACI 305R when using product in hot weather
- Follow ACI 306R when using product in cold weather
- Use a consistent water temperature when mixing multiple batches, to prevent performance fluctuations

TABLE 1 TYPICAL WATER DEMAND PER 50 lb (22.6 kg) BAG

Consistency	<u>Volume</u>
Plastic	4-1/2 qt (4.3 L)
Flowable	5 qt (4.7 L)
Fluid	5-1/2 gt (5.2 L)

SAFETY

IMPORTANT: Read Safety Data Sheet carefully before using. WEAR IMPERVIOUS GLOVES, such as nitrile, mask, and eye protection. DANGER: Causes sever skin burns and serious eye damage. Prolonged or repeated inhalation of dust may cause lung damage or cancer. KEEP OUT OF REACH OF CHILDREN

SHELF LIFE

12 months from date of manufacture as long as the undamaged package is stored in a dry location that is protected from moisture, and out of direct sunlight.

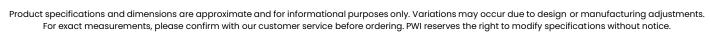
WARRANTY

NOTICE: Obtain the applicable LIMITED WARRANTY at www.quikrete.com/product-warranty or send a written request to The Quikrete Companies, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured by or under the authority of The Quikrete Companies, LLC. © 2022 Quikrete International, Inc.

TABLE 2 TYPICAL	. PHYSICAL P	ROPERTIES A	AT 73.5 °F	(23 °C)
------------------------	--------------	-------------	------------	---------

TABLE 2 TYPICAL PHYSICAL PROPERTIES A	<u>「73.5 °F (23 °C)</u>
Consistency	Plastic
Flow @ 5 Drops, ASTM C1437	100 to 125%
Compressive Strength, ASTM C109 (Modified)	
Age	PSI (MPa)
1 day	3000 (20.6)
3 days	5500 (37.9)
7 days	7000 (48.2)
28 days	9000 (62.0)
Height change, ASTM C1090	
@ 1, 3, 7 & 28 days	0.0 to 0.2%
Height change, ASTM C827	
	0%
Consistency	Flowable
Flow @ 5 Drops, ASTM C1437	125 to 145%
Compressive Strength, ASTM C109 (Modified))
Age	PSI (MPa)
1 day	2500 (17.2)
3 days	4500 (31.0)
7 days	6500 (44.8)
28 days	8000 (55.1)
Height change, ASTM C1090	,
@ 1, 3, 7 & 28 days	0.0 to 0.2%
Height change, ASTM C827	
	0.3%
Consistency	Fluid
Flow, ASTM C939	20 to 30 seconds
Compressive Strength, ASTM C109 (Modified))
Age	PSI (MPa)
1 day	2000 (13. 7)
3 days	3500 (24.1)
7 days	5500 (37.9)
28 days	7000 (48.2)
Height change, ASTM C1090	,
@ 1, 3, 7 & 28 days	0.0 to 0.2%
Height change, ASTM C827	
	0.8%













Conset Grout[™] NY

Non-shrink, Non-metallic Cementitious Construction Grout

SPECIALTY CONSTRUCTION PRODUCTS

P R O D U C T D A T A

DESCRIPTION

ChemMasters' Conset Grout NY approved by the State of New York Department of Transportation as a repair, grouting, and shear key grout material under List Number 7.42-3.1-1, Sections 701.04, 701.05, and 701.06. Meets ASTM Standards C1107,and CRD C-621 specification.

ADVANTAGES

- Flowable and self consolidating
- May be placed at plastic consistency for increased strength requirements – up to 8,800 psi after 28 day
- Non-shrink for maximum load bearing
- Can be extended 50% for placements over 2 inches (5cm) deep
- · Natural aggregate matches the color of concrete
- Chloride free, nonmetallic, contains no additives known to cause oxidation or deterioration of base concrete, or reinforcing steel, and will not rust
 - Pumpable for rapid placement on large projects

USES

Building Columns
Bridge Beams
Sewers
Precast Columns

Hand Rails
Boiler Plates
Precast Beams
Dowels

Fence Posts Highway Barriers
Anchor Bolts Base Plates
Bed Plates Underpinnings

Packaging—Item Number			
50 lb (23 kg) moisture proof bags	60/pallet	F2310.50NY	
Bulk bags 1 cubic yard 3000 lb (1364 kg)	na	F2310.00NY	

TECHNICAL DATA

Yield per 50 lb (22.7 kg) bag				
ft ³ m ³				
Plastic	0.42	0.011		
Flowable	0.43	0.012		
Fluid	0.45	0.013		

Water Require	Water Requirements per 50 lbs (22.7 kg)			
	Pints	Liters		
Plastic	8	3.78		
Flowable	9	4.25		
Fluid	10	4.73		

Set Times ASTM C191/Vicat Method Hours to set			
	Initial	Final	
Plastic	2.5	3.0	
Flowable	3	3.5	
Fluid	4	4.5	

Con	Compressive Strength AASHTO T 106 (Cured to 701-05 per NYSDOT) psi/MPa @ X days			
	1 day	7 day	28 day	
Plastic	4520/31	6430/44	8800/61	
Flowable	3150/22	6000/41	7480/52	
Fluid	2390/16	4830/30	6710/46	

Expansion ASTM C1090 / CRD C 621 % X days							
	24 hrs 3days 7 days 28 days						
Plastic	0.07	0.07	0.08	0.18			
Flowable	0.03	0.03	0.04	0.10			
Fluid	0.04	0.04	0.05	0.06			

Pull–Out Strength (flowable consistency) *					
Grouting Position	Grouting Position Tension Load (lbs) Failure Mode				
Vertical	11,500	Concrete Failed			
Vertical	14,000	Test Stopped			
Horizontal	12,500	Concrete Failed			
Horizontal	14,000	Test Stopped			

*NYDOT requires #5 reinforcement bar grouted 6" deep in a 7/8" diameter hole in saturated, surface dried concrete shall have a pullout strength of 10,000 lbs minimum.





Column Grout



VOLUME GROUTING

NY may be extended with up to 25 lbs (11 kg) of clean, SSD water, yield will increase to approximately 0.6ft³ (0.017m³) Flow will decrease significantly when including pea gravel in the mix..

DIRECTIONS:

Grouting is best accomplished at temperatures between 40° and 90°F (4° and 32°C). For extremely low or high temperatures, follow the guidelines established by ACI for cold or hot weather grouting or consult ChemMasters for additional recommendations.

PREPARATION: The concrete substrate base must be clean and free of any curing or sealing compounds, dust, dirt, oil, and grease. The base should be textured where possible using a small chipping hammer. Presoak the substrate with water for 24 hours to prevent premature drying of the grout. Cover with wet burlap or polyethylene sheeting to retain

FORMING: Forms will be required for most grouting applications. Top edges of forms must be higher than bottom of base plate to be grouted. Seal bottom edges of forms to prevent grout from leaking. Construct forms with a larger gap, at least 2 inches (5cm), between form and base being grouted. Use a slant board or construct a head box to direct flow of grout from front to back. Allow at least a 1 inch (2.5cm) gap at backside of form to facilitate flow and allow air to escape in front of grout flow. All forms in contact with the grout must be coated with ChemMasters' Release or Safe-Slip.

MIXING: New York State DOT requires maximum 1 gallon of water per 50lb (3.785L / 22.7kg) of Conset Grout N.Y. A paddle type mortar mixer, grout pump, or heavy duty 1/2" drill and mixing prop are required.

Place about 80% of required water into clean and pre-wet mixer or container. (Use only as much water as required to properly place the grout. Adding excess water decreases strength and expansion.) With mixer blades operating, open bag, gradually empty into mixer, mix for about 1 minute, add remaining water, mix for 3 to 4 minutes. Following this sequence should eliminate lumping, and keep mixer clean and free of excess build-up. Mix enough Conset Grout NY in each batch to fill void completely to eliminate cold joints or air pockets.

PLACEMENT: Always place grout from one side at a steady, continuous flow to push air out in front of grout flow, ensuring maximum surface bearing of the plate or base. Do not vibrate grout.

CURING: Proper curing is required! As soon as grout For applications over 2 inches (5cm) deep, Conset Grout placement is complete, wet cure the exposed surfaces or apply New York State approved ChemMasters' Safe Cure 3/8" (0.95cm) pea gravel per bag. With 9 pints (4.3 liters) of Clear DR with red dye, Safe Cure 2000. If wet curing, wet burlap may be used following the guidelines in ACI 351, Grouting for Support of Equipment and Machinery.

> CLEANUP: Clean tools and equipment with warm water before material dries and hardens.

> STORAGE: Store unopened bags on pallets between 40 and 80° F (4 to 26°C) in a dry environment. Shelf life, when properly stored, is one year from date of manufacture. **LIMITATIONS**

- Do not apply to frost covered or frozen surfaces. At substrate or ambient temperatures below 40°F (4°C) follow 306 Cold Weather Concreting guidelines. For placement at temperatures 90°F (32°C) and higher
- ChemMasters recommends the use of ChemGrout mixers and pumps for placements under large baseplates or with a difficult configuration

follow ACI 305 Hot Weather Concreting.

- Contact ChemMasters' Technical Service Staff for special recommendations on precision grouting, dry pack situations, or unusual circumstances
- For close tolerance placement or heavy duty applications subjected to extreme thermal shock, chemical resist, extreme high strength or dynamic loading, consider the use of ChemMasters' Kemset, Met-Ox, Polytops CR, Polytops HF or Polytops CR Grout

Precautions:

DANGER: Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure if inhaled. Precautionary Statements: Do not breathe dust/fume/gas/ mist/vapours/spray. Wash hands and skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Keep out of reach of children

This Product is Formulated and Labeled for Industrial and Commercial Use Only

FOR BEST RESULTS AND SAFEST USAGE, USER IS SPECIFICALLY DIRECTED TO CONSULT THE CURRENT PRODUCT & SAFETY DATA SHEETS AND PACKAGE LABEL FOR THIS PRODUCT
We warrant our products to meet our published specifications and to be free from defects in materials and workmanship to the acceptable quality levels defined in these specifications. If acceptable
quality levels will be those normally supplied by us for the product. We make no guarantee of the results to be obtained from the use of our products.
The determination as to the adaptability of any of our products to the specific needs of the Buyer is solely Buyer's prerogative and responsibility. We are glad to offer suggestions on the use of our
products. Nevertheless, there are no warranties give except such expresses warranties offered in connection with the sale of a particular product. Our liability shall be limited to replacement of, or
refund of an amount not to exceed the purchase price attributed to, the goods as to which such claim is made. Our selection of one of these alternatives shall be Buyer's exclusive remedy. IN NO
CASE SHALL WE BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES, EVEN IF WE HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE FOREGORISM WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, CO-CONDITIONS AND REPRESENTATIONS, EITHER EXPRESSED OR IMPLIED, WHETHER ARISING UNDER ANY STATUTE,
COMMON LAW USAGE OR TRADE COURSE OF DEPLIES COURSE OF THE PROSE OF THE PROSED O COMMON LAW, USAGE OR TRADE, COURSE OF DEALING OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Printed in U.S.A

Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.



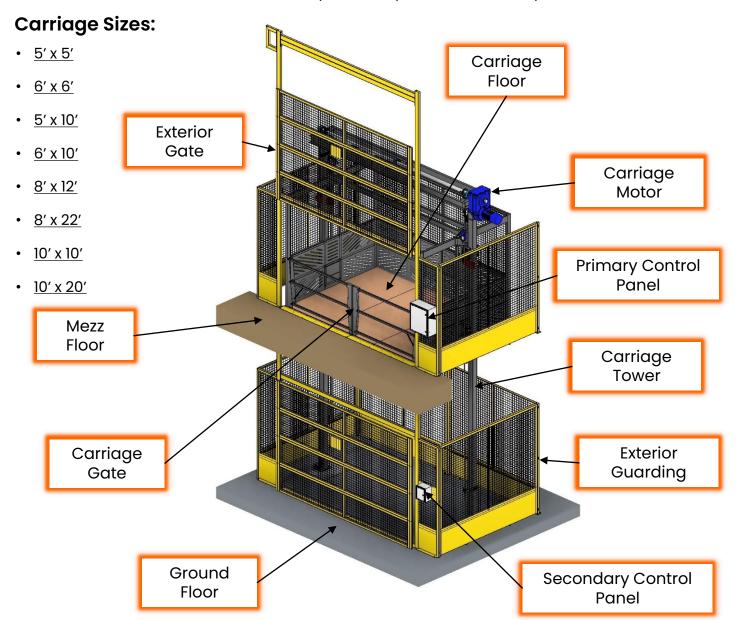


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Info Diagram

Product Description

- Vertical Reciprocating Conveyers (VRC) are a great option that PWI offers to load/unload your mezzanine.
- The location of these VRCs is crucial to your facility's overall efficiency







Mezzanines

Cranes

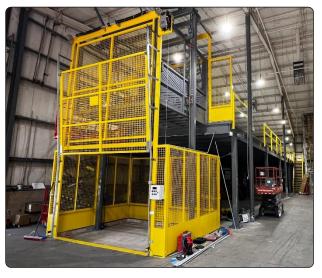


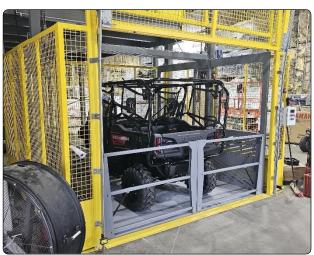
Product Features

- Multiple Sizes
- Safety Options: Gate Sensors, Upper limit/ Lower limit, Guarding to prevent pinch points
- Operation from Mezzanine level or ground level
- Safety load arrestor system













Mezzanines

Control Panels

Product Description

The VRC Control Panels are multifunctional.

Product Features

- E Stop Button
- Up/Down Carriage Buttons
- Open/Close Door Buttons
- Power On Indication Safety Button
- Dan Foss VFD for precise speed programming
- Green Live Load Display

Secondary Control Panel



Primary Control Panel







Mezzanines

Cranes

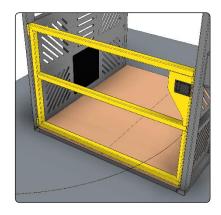
Carriage Gate Options

Product Description

· Gates ensure that your product is safely transported onto and off your mezzanine.

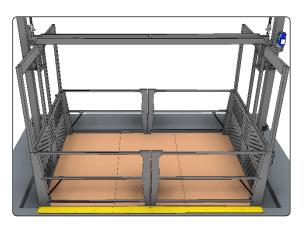
Swing Gate

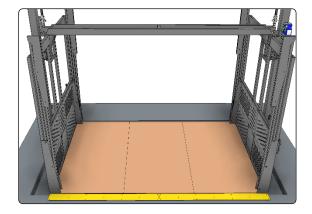
- Max Opening: 6'
- · Latch System



Rail Rod Gate

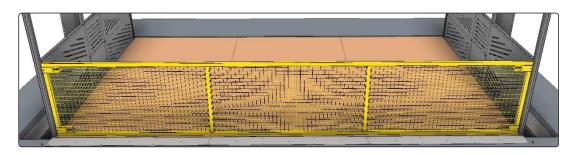
- Max Opening: 12'
- · Air Assist Cylinders





Vertical Gate

- Max Opening: 20'
- · Motorized Opener
- Starke 300 Series Track







Cranes

Lifting Devices

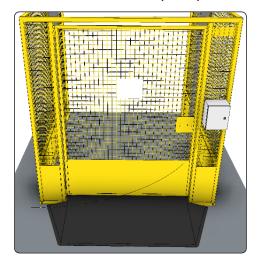
Mezzanines

Ti

Exterior Gate Options

Product Description

· Gates ensure that your product is safely transported onto and off your mezzanine.



Single Panel Vertical Gate

- Max Opening: 20'
- Motorized Opener
- Garage Door Track

Swing Gate

- Max Opening: 6'
- Latch System



Multi Panel Vertical Gate

- Max Opening: 20'
- Motorized Opener
- Garage Door Track







Pit and Footer

Product Description

Footers are necessary to support the VRC column loads. The pit of the VRC allows for the carriage to be loaded/unloaded flush with the factory floor.

Engineering Notes:

THE ENGINEER HAS ASSUMED 3000 PSF SOIL BEARING. THE OWNER IS RESPONSIBLE FOR ANY INFORMATION THAT WOULD AFFECT THIS ASSUMPTION.

ALL CONCRETE POURED WITH A SLUMP OF FOUR.

CONCRETE TO BE 3000 PSI IN 28 DAYS AND WORK IS TO CONFORM CRSI AND PSA SPECIFICATIONS.

ANY FILL MATERIAL UNDER BEARING LOCATIONS TO BE COMPACTED TO 100% STD. PROCTOR AND OF APPROVED MATERIAL.

ANY FILL MATERIAL REQUIRED AT OTHER LOCATIONS TO BE COMPACTED TO 95% MODIFIED PROCTOR AND MEET PCA RECOMMENDATIONS, OR PER SOIL INVESTIGATION REPORT.

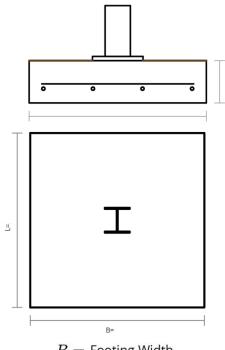
ALL REINFORCING STEEL TO BE GRADE 60 PER ASTM SPECIFICATIONS.

EXPANSIONS JOINTS AND CONTROL JOINTS TO BE PLACED AS RECOMMENDED BY SCI, CRS, PCA, ACSI, LOCAL CODES, AND THE STEEL BUILDING MANUFACTURER.

ALL UNSPECIFIED CONSTRUCTION TO MEET ALL STATE AND LOCAL CODE REQUIREMENTS.

ALL MATERIALS MUST BE APPROVED AND LISTED FOR THEIR INTENDED USE.

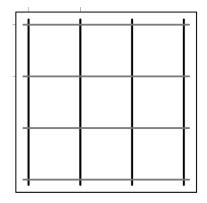
ALL MATERIALS LISTED MAY BE SUBSTITUTED WITH APPROVED MATERIALS OF EQUAL OR BETTER QUALITY.



B =Footing Width

L= Footing Length

H = Footing Thickness





ΔΡΕΧ





Cranes

Ti

Anchorage

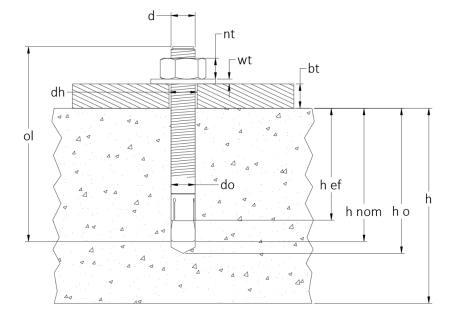
Product Description

- Wedge Anchor
 - · Post-installed anchor
 - · Used for light duty applications

Wedge

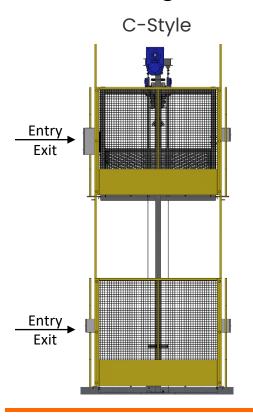


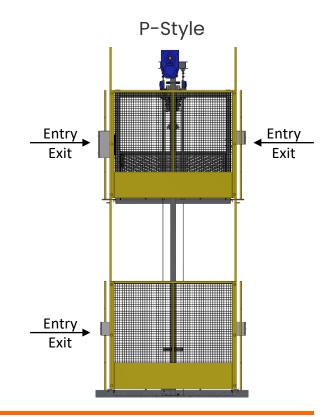
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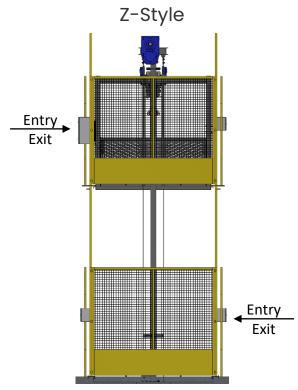


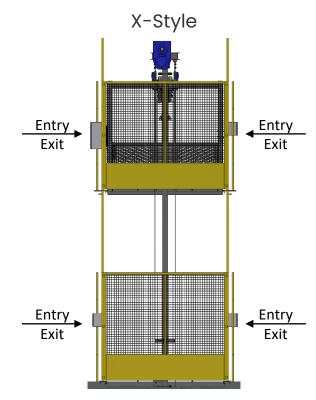


Entrance Configurations











5'x5' Carriage

Product Information

Model: **PWSG0505**

Carriage Size: 5' x 5' (inside dimensions)

Lifting Capacity: 2,000 lbs.

Power Supply Options: 20 AMP @ 240V

20 AMP @ 480V

Lifting Speed: 26fpm (no VFD)

Load Limiter: Load Cell

Lifting Type: 2 Ton Chain Hoist

Carriage Door: Swing Gate with Latch

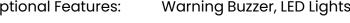
Exterior Door: Concrete Pit Depth:

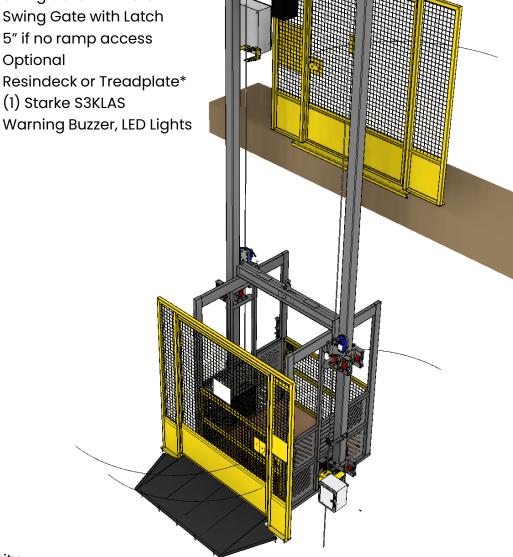
Ramp Access: Optional

Resindeck or Treadplate* Floor Type:

(1) Starke S3KLAS Fall Protection:

Optional Features: Warning Buzzer, LED Lights





*Treadplate reduces capacity.







6'x6' Carriage

Product Information

Model: **PWLT0606**

Carriage Size: 6' x 6' (inside dimensions)

Lifting Capacity: 2,500 lbs.

Power Supply Options: 20 AMP @ 240V

20 AMP @ 480V

Lifting Speed: 26fpm (no VFD)

Load Limiter: Load Cell

Lifting Type: 3 Ton Chain Hoist Carriage Door: Railroad Gate

Exterior Door Options: Single Panel Motorized

OHGate

Multi Panel Motorized

OHGate

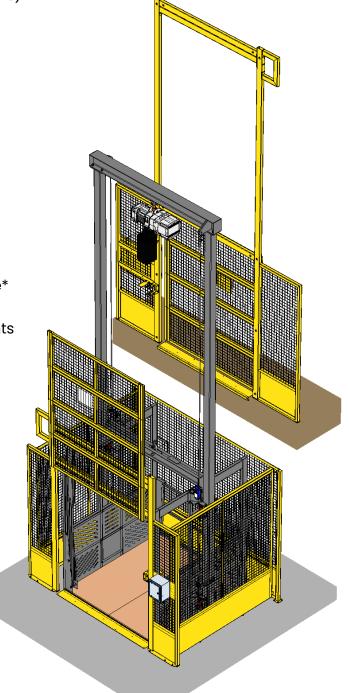
Concrete Pit Depth: 5" if no ramp access

Ramp Access: Optional

Resindeck or Treadplate* Floor Type:

Fall Protection: (2) Starke S2KLAS

Warning Buzzer, LED Lights **Optional Features:**



*Treadplate reduces capacity.

Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.

200





APEX VRC



5'x10' Carriage

Product Information

Model: PWSD0510

• Carriage Size: 5' x 10' (inside dimensions)

• Lifting Capacity: 2,500 lbs.

Power Supply Options: 20 AMP @ 480V
 Lifting Speed: 20fpm (with VFD)

• Load Limiter: Load Cell

Lifting Type: 7.5 HP Gear Motor with Roller Chain

Carriage Door Options: Railroad Gate

Vertical Gate

• Exterior Door Options: Single Panel Motorized OHGate

Multi Panel Motorized OHGate

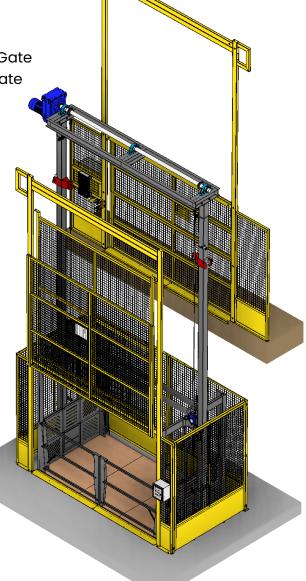
• Concrete Pit Depth: 5"

• Ramp Access: No

Floor Type: Resindeck or Treadplate*

Fall Protection: (2) Starke S3KLAS

Optional Features: Warning Buzzer, LED Lights









6'x10' Carriage

Product Information

Model: PWSD0610

• Carriage Size: 6' x 10' (inside dimensions)

• Lifting Capacity: 2,500 lbs.

Power Supply Options: 20 AMP @ 480V
Lifting Speed: 20fpm (with VFD)

• Load Limiter: Load Cell

• Lifting Type: 7.5 HP Gear Motor with Roller Chain

· Carriage Door Options: Railroad Gate

Vertical Gate

• Exterior Door Options: Single Panel Motorized OHGate

Multi Panel Motorized OHGate

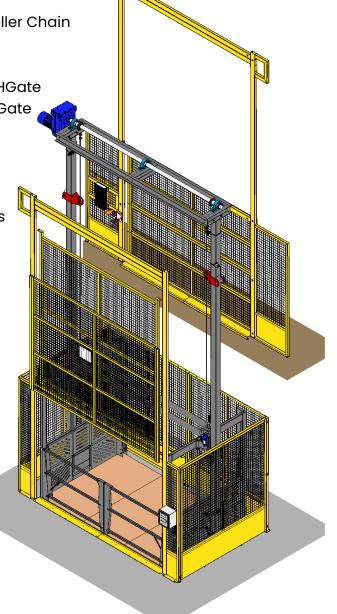
• Concrete Pit Depth: 5"

Ramp Access: No

Floor Type: Resindeck or Treadplate*

• Fall Protection: (2) Starke S3KLAS

Optional Features: Warning Buzzer, LED Lights



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Revised: 11/7/2025





8'x12' Carriage

Product Information

Model: PWSD0812

• Carriage Size: 8' x 12' (inside dimensions)

• Lifting Capacity: 2,500 lbs.

Power Supply Options: 20 AMP @ 480V
Lifting Speed: 20fpm (with VFD)

• Load Limiter: Load Cell

• Lifting Type: 7.5 HP Gear Motor with Roller Chain

· Carriage Door Options: Railroad Gate

Vertical Gate

• Exterior Door Options: Single Panel Motorized OHGate

Multi Panel Motorized OHGate

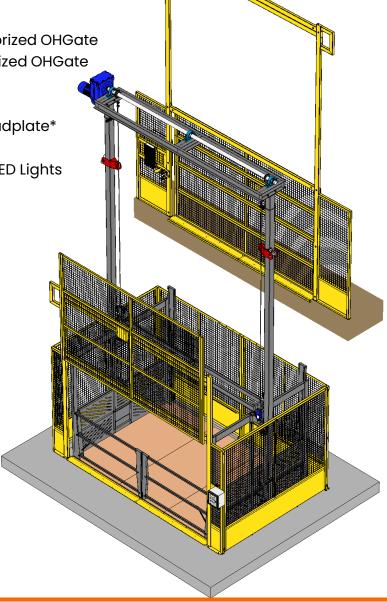
• Concrete Pit Depth: 5"

• Ramp Access: No

Floor Type: Resindeck or Treadplate*

• Fall Protection: (2) Starke S3KLAS

Optional Features: Warning Buzzer, LED Lights



Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.

203





T

10'x10' Carriage

Product Information

Model: PWSD1010

• Carriage Size: 10' x 10' (inside dimensions)

Lifting Capacity: 2,500 lbs.

Power Supply Options: 20 AMP @ 480VLifting Speed: 20fpm (with VFD)

• Load Limiter: Load Cell

• Lifting Type: 7.5 HP Gear Motor with Roller Chain

· Carriage Door Options: Railroad Gate

Vertical Gate

Exterior Door Options: Single Panel Motorized OHGate

Multi Panel Motorized OHGate

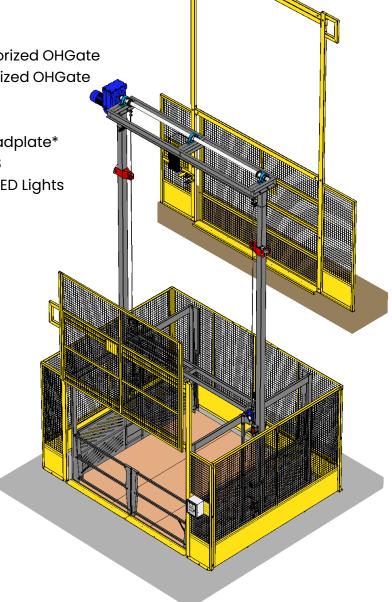
• Concrete Pit Depth: 5"

Ramp Access: No

Floor Type: Resindeck or Treadplate*

• Fall Protection: (2) Starke S3KLAS

Optional Features: Warning Buzzer, LED Lights







APEX VRC



8'x22' Carriage

Product Information

Model: PWHD0822

Carriage Size: 8' x 22' (inside dimensions)

• Lifting Capacity: 2,500 lbs.

Power Supply Options: 30 AMP @ 480V
Lifting Speed: 20fpm (with VFD)

Load Limiter: Load Cell

Lifting Type: 15 HP Gear Motor with Roller Chain

• Carriage Door: Vertical Gate

• Exterior Door Options: Single Panel Motorized OHGate

Multi Panel Motorized OHGate

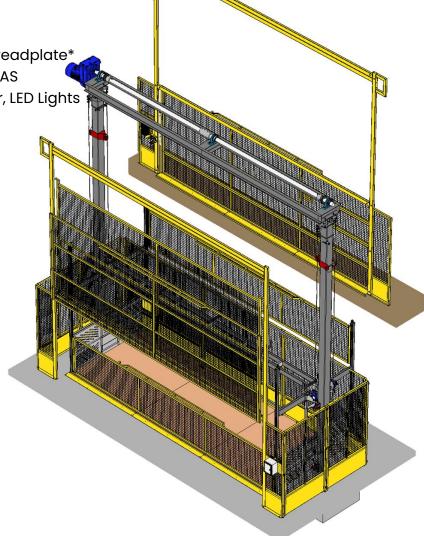
• Concrete Pit Depth: 14"

• Ramp Access: No

Floor Type: Resindeck or Treadplate*

• Fall Protection: (4) Starke S3KLAS

Optional Features: Warning Buzzer, LED Lights



Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.

205





APEX VRC



10'x20' Carriage

Product Information

Model: PWHD1020

Carriage Size: 10' x 20' (inside dimensions)

Lifting Capacity: 5,000 lbs.

Power Supply Options: 30 AMP @ 480V
 Lifting Speed: 22fpm (with VFD)

Load Limiter: Load Cell

Lifting Type: 15 HP Gear Motor with Roller Chain

Carriage Door: Vertical Gate

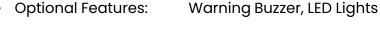
• Exterior Door Options: Single Panel Motorized OHGate

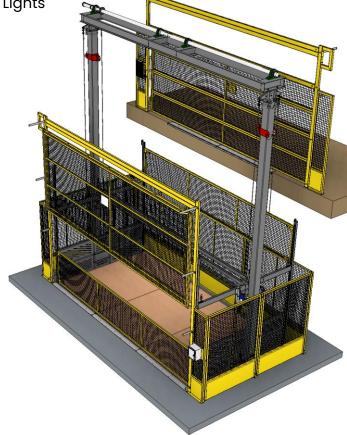
Multi Panel Motorized OHGate

Concrete Pit Depth: 14"Ramp Access: No

Floor Type: Resindeck or Treadplate*

Fall Protection: (4) Starke S3KLAS – Secondary Brake Device





Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.

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Safety Index



- **ANCHOR**POINT Fall Protection Lifeline
- **GUARDIAN** Work Platforms
- **GLIDE** Dollies



ANCHORPOINT Fall Protection Index



- ANCHORPOINT 307 Series Fall Protection Lifeline
- ANCHORPOINT 310 Series Fall Protection Lifeline
- ANCHORPOINT Freestanding Fall Protection Lifeline
- Column Mounted Roof Build Safety Arms
- Ceiling Mounted Roof Build Safety Arms







ANCHORPOINT Fall Protection

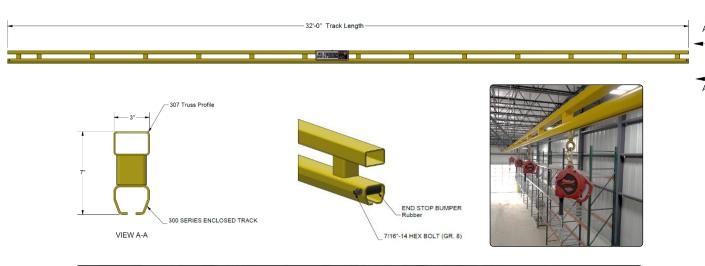


307 Series Stationary Fall Protection Lifeline

Product Description

- 307 Truss Profile
- 1 Person Capacity Max Span 20'
- 2 Person Capacity Max Span 20'
- 3 Person Capacity Max Span 20'
- 4 Person Capacity Max Span 18'
- Max Cantilever: 4'
- Minimum distance between splice to support: 4'

OSHA 1910.140(c)(13)(i) requires that an anchorage point be capable of supporting 5000# for each employee OR 1910.140(c)(13)(ii) designed, installed, and used, under the supervision of qualified person, as part of a complete personal fall protection system that maintains a safety factor of at least two. Utilizing a self-retracting lifeline with a Maximum Average Arresting Force of 900 lbs. PWI designs our engineered track system for 900 lbs. max arresting force with a safety factor of 2, What this means is that our track system is rated for 1800# for a 1-man system. The probability of more than one worker falling and dynamically impacting the fall protection system in the same critical millisecond-range is remote. Since typical lanyard arrest forces peak in the 5-millisecond duration range, the chances that multiple maximum arrest forces are going to be superimposed is extremely unlikely. Therefore, industry standard is to rate this a 2-man system for 2160# (which includes the safety factor of 2). 1800 MAF + 1 man (310#) + tools (50#) = 2160 lbs.









ANCHORPOINT Fall Protection

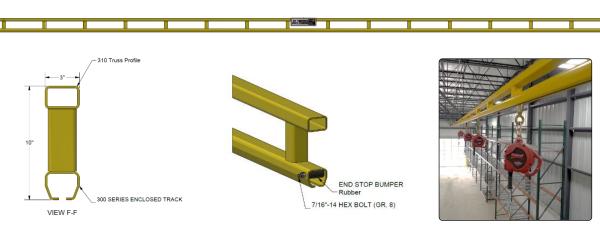


307 Series Stationary Fall Protection Lifeline

Product Description

- 310 Truss Profile
- 1 Person Capacity Max Span 40'
- 2 Person Capacity Max Span 40'
- 3 Person Capacity Max Span 40'
- 4 Person Capacity Max Span 32'
- Max Cantilever: 4'
- Minimum distance between splice to support: 4'

OSHA 1910.140(c)(13)(i) requires that an anchorage point be capable of supporting 5000# for each employee OR 1910.140(c)(13)(ii) designed, installed, and used, under the supervision of qualified person, as part of a complete personal fall protection system that maintains a safety factor of at least two. Utilizing a self-retracting lifeline with a Maximum Average Arresting Force of 900 lbs. PWI designs our engineered track system for 900 lbs. max arresting force with a safety factor of 2, What this means is that our track system is rated for 1800# for a 1-man system. The probability of more than one worker falling and dynamically impacting the fall protection system in the same critical millisecond-range is remote. Since typical lanyard arrest forces peak in the 5-millisecond duration range, the chances that multiple maximum arrest forces are going to be superimposed is extremely unlikely. Therefore, industry standard is to rate this a 2-man system for 2160# (which includes the safety factor of 2). 1800 MAF + 1 man (310#) + tools (50#) = 2160 lbs.









Mezzanines

ANCHORPOINT Fall Protection



Freestanding Fall Protection Lifeline

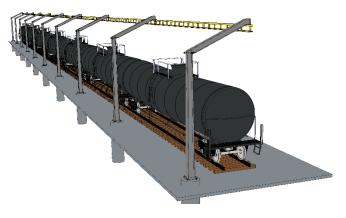
Product Description

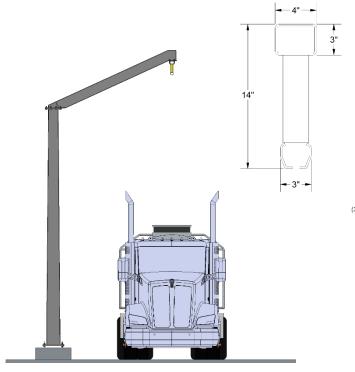
Series: Exterior Enclosed Track

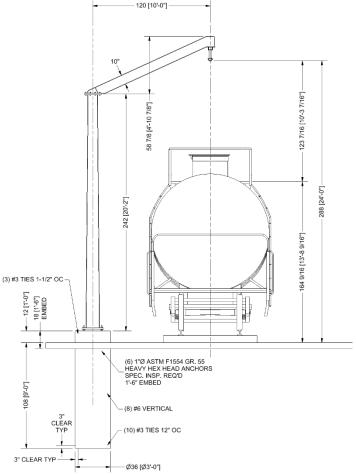
· Capacity: 2 Persons

Span: 50'

OSHA 1910.140(c)(13)(i) requires that an anchorage point be capable of supporting 5000# for each employee OR 1910.140(c)(13)(ii) designed, installed, and used, under the supervision of qualified person, as part of a complete personal fall protection system that maintains a safety factor of at least two. Utilizing a self-retracting lifeline with a Maximum Average Arresting Force of 900 lbs. PWI designs our engineered track system for 900 lbs. max arresting force with a safety factor of 2, What this means is that our track system is rated for 1800# for a 1-man system. The probability of more than one worker falling and dynamically impacting the fall protection system in the same critical millisecond-range is remote. Since typical lanyard arrest forces peak in the 5-millisecond duration range, the chances that multiple maximum arrest forces are going to be superimposed is extremely unlikely. Therefore, industry standard is to rate this a 2man system for 2160# (which includes the safety factor of 2). 1800 MAF + 1 man (310#) + tools (50#) = 2160 lbs.











Column Mounted Roof Build Safety Arms



Product Description

 Provides overhead protection during and after roof/ceiling manufacturing process for RV and modular home manufacturing. This allows workers to safely walk under the roof structure during the manufacturing or staging process.

Product Features

- Floor / Column Mounted
- Articulating Arms
- Remote Control







Ceiling Mounted Roof Build Safety Arms

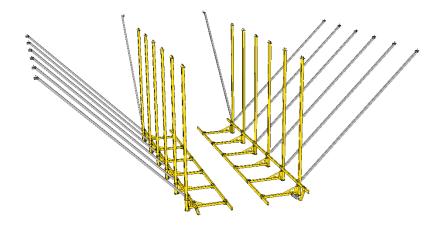


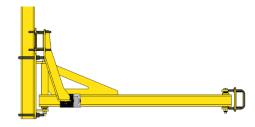
Product Description

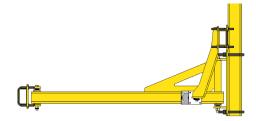
 Provides overhead protection during and after roof/ceiling manufacturing process for RV and modular home manufacturing. This allows workers to safely walk under the roof structure during the manufacturing or staging process.

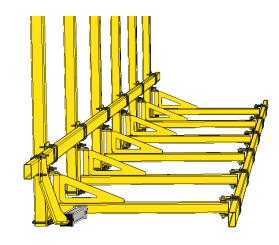
Product Features

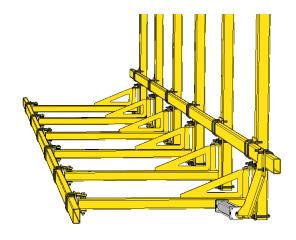
- Ceiling Mounted
- Articulating Arms
- · Remote Control















GUARDIAN Work Platform



Info Diagram

Product Description

 The ultimate solution for safe and efficient access to rooftops and sidewalls of RVs, trailers, or mobile homes. Easily adjust the height of the work platform to provide optimal reach for any job.

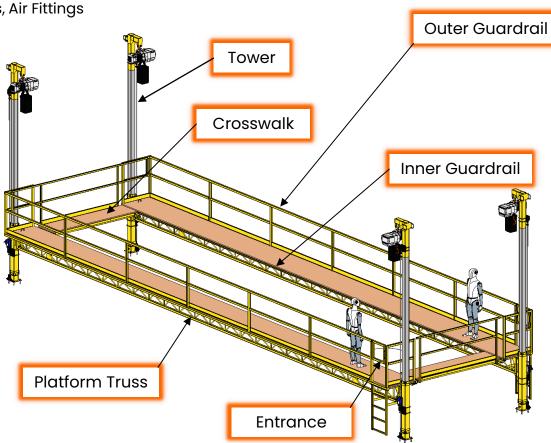
Product Features

- Dual electric chain hoists
- · Safety load arrestor system
- Up/down limits
- · Safety guardrails
- Crosswalks

Lifting Devices

- Custom configurations: platform width, length, distance between platforms
- Capacity ratings
- Wireless controls
- Safety options: beacons, buzzers, time delays

 Additional options: under platform LED lighting, electrical receptacles on platforms, Air Fittings







GUARDIAN Work Platform

Ti

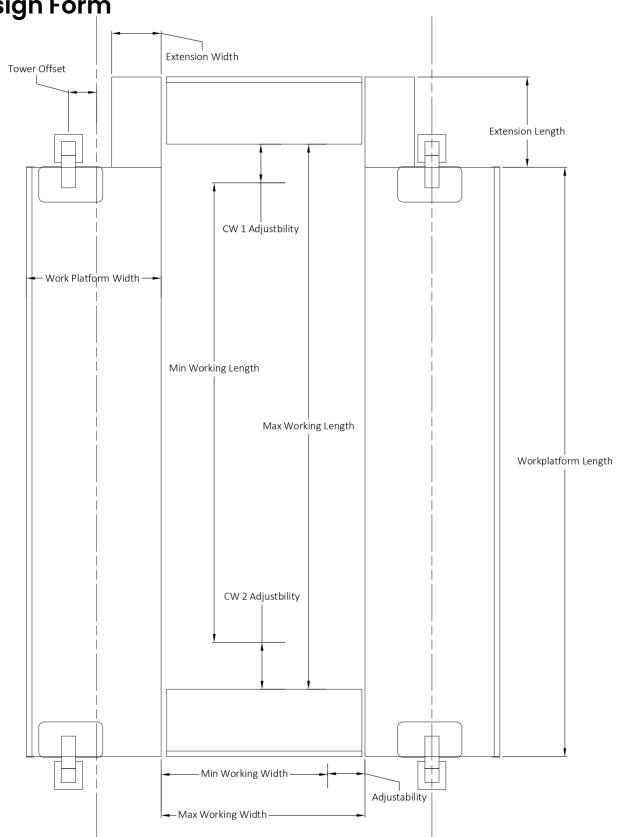
Design Form

Production Line Roll Frequency minutes 20 15 7 Building Construction Type PEMB (roof bar joists) PEMB (roof purlins) Wood Construction Project Type Stand Alone New Construction/Renovation Local/State Permit Required Yes No No Minimum Building Celling Height (ft.) Concrete Floor Thickness (in.) Unit Entry side to side style elephant style elephant style Platform inside workspace Type Adjuststable Fixed Oouble (guardrail in center) Platform Guardrail Type Single (guardrail on side) Oouble (guardrail in center) Platform Width (in.) 42° / other Delatform Mezzanine Outrigger Floor Ramp Outrigger Stair Platform Width (in.) 41° of Persons: Tool Weight Per Person: Misc. Weight: Misc. W		Question			Answer		
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Project Type Stand Alone New Construction/Renovation Local/State Permit Required Yes No Minimum Building Celling Height (ft.) Concrete Floor Thickness (in.) Unit Entry side to side style elephant style Platform inside workspace Type Adjuststable Fixed Platform Guardrall Type Single (guardrail on side) Double (guardrail in center) Platform Guardrall Height (in.) 42" / other Platform Guardrall Height (in.) Floor by Ladder Mezzanine Outrigger Floor Ramp Outrigger Stair Platform Width (in.) Tool Weight Per Person: Misc. Weight: Platform Load Capacity if of Persons: Tool Weight Per Person: Misc. Weight: Unit Minimum Width (no awning) (in.) Unit Max Width (no awning) (in.) Unit Max Width (with awning) (in.) Unit A Frame Minimum Length (ft.) Unit Shell Minimum Length (ft.) Unit Max Height (no AC) (ft.) Unit Max Height (with AC) (ft.) Unit Max Hei	2	Production Line Roll Frequency	minutes	20	15	7	
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Unit Entry Side to side style elephant style Fixed Fix	6	Minimum Building Ceiling Height	(ft.)				
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Platform Width (in.) Platform Load Capacity # of Persons: Tool Weight Per Person: Misc. Weight: Unit Minimum Width (no awning) (in.) Unit Minimum Width (with awning) (in.) Unit Max Width (with awning) (in.) Unit A Frame Minimum Length (ft.) Unit Shell Minimum Length (ft.) Unit Shell Mix Length (if.) Unit Max Height (with AC) (ft.) Unit Max Height (with AC) (ft.) Unit Max Height (with AC) on dolly (ft.) Crosswalk Guardrail Type Standard Expandable Pivot Rail Crosswalk Inside Treatments Corner Fill-in Gap Fill-in Inner Guardrail Inner Guardrail Type Cam Gates Telescoping Guardrail Ratchet Strap Removeable Sections Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets Tower Height (ft.)	11	Platform Guardrail Height	(in.)	42" / other			
Platform Load Capacity # of Persons: Misc. Weight:	12	Platform Worker Access		Floor by Ladder	Mezzanine Outrigger	Floor Ramp	Outrigger Stair
Unit Minimum Width (no awning) (in.) Unit Max Width (with awning) (in.) Unit Max Width (with awning) (in.) Unit Max Width (with awning) (in.) Unit Aframe Minimum Length (ft.) Unit Shell Minimum Length (ft.) Unit Shell Max Length (ft.) Unit Max Height (no AC) (ft.) Unit Max Height (with AC) (ft.)	13	Platform Width	(in.)				
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Unit Max Width (no awning) Unit Max Width (with awning) Unit A Frame Minimum Length (ft.) Unit Shell Minimum Length (ft.) Unit Shell Max Length (ft.) Unit Max Height (no AC) Unit Max Height (with AC) Unit Max Height (with AC) Unit Max Height (with AC) Crosswalk Guardrail Type Standard Expandable Pivot Rail Crosswalk Inside Treatments Corner Fill-in Gap Fill-in Inner Guardrail Inner Guardrail Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets Tower Height	15	Unit Minimum Width (no awning)	(in.)				
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Unit Shell Max Length (ft.) UNit Max Height (no AC) (ft.) Unit Max Height (with AC) (ft.) Unit Max Height (with AC) on dolly (ft.) Crosswalk Guardrail Type Standard Expandable Pivot Rail Crosswalk Inside Treatments Corner Fill-in Gap Fill-in Inner Guardrail Inner Guardrail Type Cam Gates Telescoping Guardrail Ratchet Strap Removeable Sections Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets Tower Height (ft.)	19	Unit A Frame Minimum Length	(ft.)				
UNit Max Height (with AC) Unit Max Height (with AC) Unit Max Height (with AC) Unit Max Height (with AC) on dolly (ft.) Crosswalk Guardrail Type Standard Expandable Pivot Rail Crosswalk Inside Treatments Corner Fill-in Gap Fill-in Inner Guardrail Inner Guardrail Type Cam Gates Telescoping Guardrail Ratchet Strap Removeable Sections Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets	20	Unit Shell Minimum Length	(ft.)				
Unit Max Height (with AC) (ft.) Unit Max Height (with AC) on dolly (ft.) Crosswalk Guardrail Type Standard Expandable Pivot Rail Crosswalk Inside Treatments Corner Fill-in Gap Fill-in Inner Guardrail Inner Guardrail Type Cam Gates Telescoping Guardrail Ratchet Strap Removeable Sections Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets Tower Height (ft.)	21	Unit Shell Max Length	(ft.)				
Unit Max Height (with AC) on dolly Crosswalk Guardrail Type Standard Expandable Pivot Rail Crosswalk Inside Treatments Corner Fill-in Inner Guardrail Inner Guardrail Gap Fill-in Inner Guardrail Ratchet Strap Removeable Sections Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets Tower Height	22	UNit Max Height (no AC)	(ft.)				
Crosswalk Guardrail Type Standard Expandable Pivot Rail Crosswalk Inside Treatments Corner Fill-in Gap Fill-in Inner Guardrail Inner Guardrail Ratchet Strap Removeable Sections Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets Tower Height	23	Unit Max Height (with AC)	(ft.)				
Crosswalk Inside Treatments Corner Fill-in Gap Fill-in Inner Guardrail Inner Guardrail Ratchet Strap Removeable Sections Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets Tower Height	24	Unit Max Height (with AC) on dolly	(ft.)				
Inner Guardrail Type Cam Gates Telescoping Guardrail Ratchet Strap Removeable Sections Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets Tower Height	25	Crosswalk Guardrail Type		Standard	Expandable	Pivot Rail	
Outer Guardrail Options Standard Saw Table w/ Finger Rack Air Supply Electrical Outlets Tower Height (ft.)	25	Crosswalk Inside Treatments		Corner Fill-in	Gap Fill-in	Inner Guardrail	
Tower Height (ft.)	26	Inner Guardrail Type		Cam Gates	Telescoping Guardrail	Ratchet Strap	Removeable Sections
	27	Outer Guardrail Options		Standard	Saw Table w/ Finger Rack	Air Supply	Electrical Outlets
Tower Position Centered Offset (Amount:in.)	27	Tower Height	(ft.)				
	27	Tower Position		Centered	Offset (Amount:in.)		
Tower Orientation Standard Rotated	28	Tower Orientation		Standard	Rotated		





Design Form

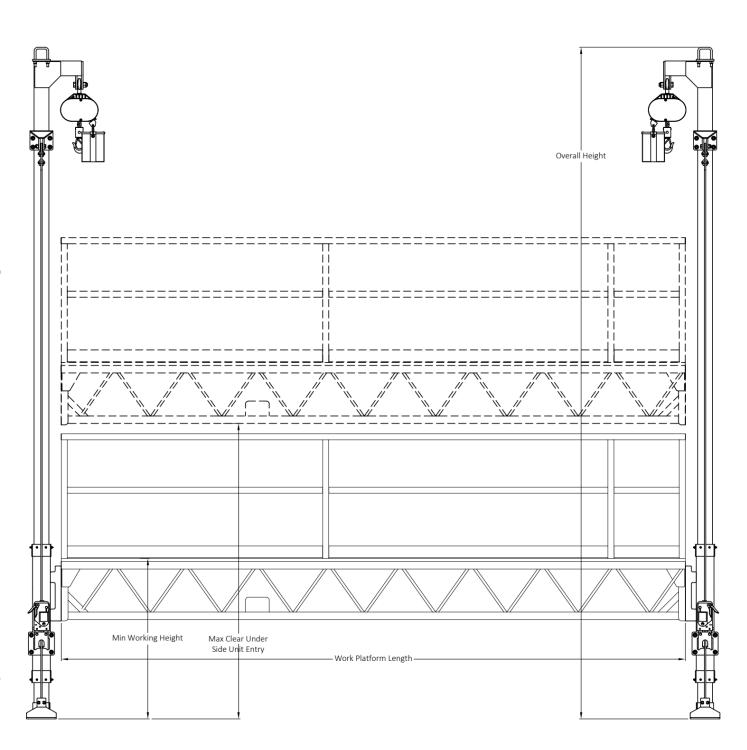






Mezzanines

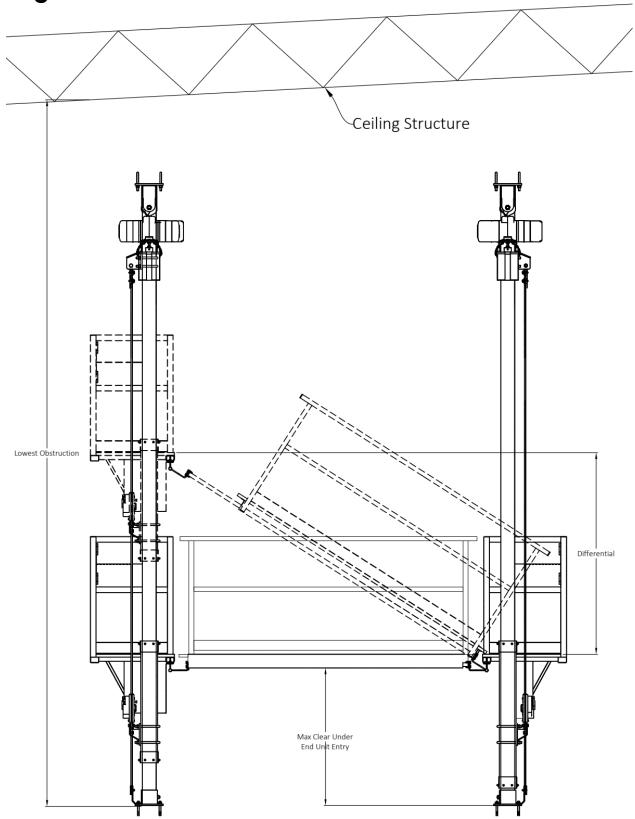
Design Form







Design Form





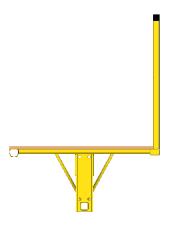




Truss Options

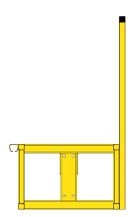
Triangular Truss

- Standard capacity (2 person+350lbs of tools and equipment)
- For spans up to 55'
- Crosswalk Compatible



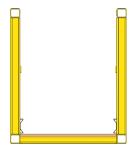
Box Truss

- · Heavy duty capacities
- For spans >55'
- Crosswalk Compatible



Open Truss

- · Heavy duty capacities
- For spans >55'
- · Not Crosswalk Compatible
- Low Headroom

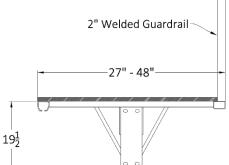


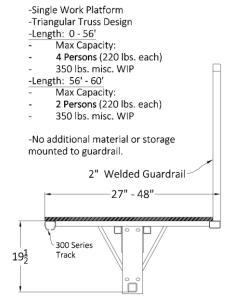




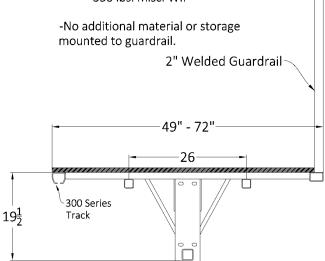
Triangle Truss Single Work Platforms

- -Single Work Platform
- -Triangular Truss Design
- -Length: 0 56'
- -Max Capacity:
- 2 Persons (220 lbs. each)
- 350 lbs. misc. WIP
- -No additional material or storage mounted to guardrail.





- -Single Work Platform
- -Triangular Truss Design
- -Length: 0 56'
- -Max Capacity:
- 2 Persons (220 lbs. each)
- 350 lbs. misc. WIP



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Triangle Truss Double Work Platforms

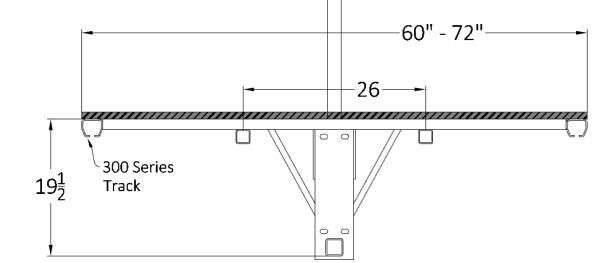
-Double Work Platform

-Triangular Truss Design

- -Length: 0 60'
- -Max Capacity:
- 2 Persons (220 lbs. each)
- 350 lbs. misc. WIP

-No additional material or storage mounted to guardrail.

2" Welded Guardrail

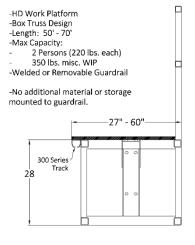


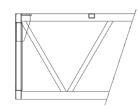


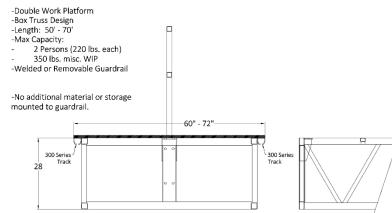


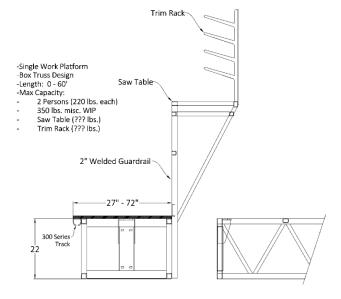


Box Truss Single Tower Work Platforms













Mezzanines

GUARDIAN Work Platform



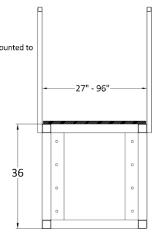
Box Truss Double Tower Work Platforms

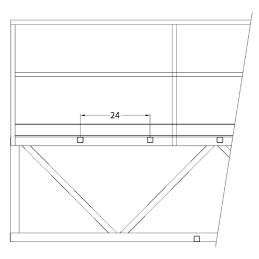
-Single Work Platform -Box Truss Design -Length: 60' - 90'

-Max Capacity:

4 Persons (220 lbs. each) 700 lbs. misc. WIP -Welded or Removable Guardrail

-No additional material or storage mounted to





LOW HEADROOM OPTION

-HD Work Platform

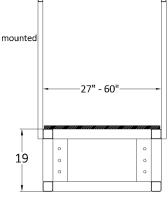
-Box Truss Design

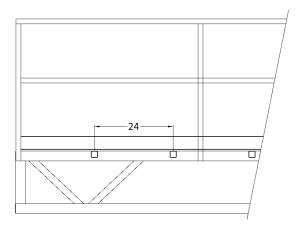
-Length: 50' - 62' -Max Capacity:

4 Persons (220 lbs. each)

700 lbs. misc. WIP -Welded or Removable Guardrail

-No additional material or storage mounted to guardrail.





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Open Truss Double Tower Work Platforms

-HD Work Platform

-Open Truss Design

-Length: 50' - 85'

-Max Capacity:

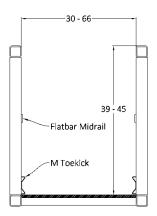
6 Persons (220 lbs. each)

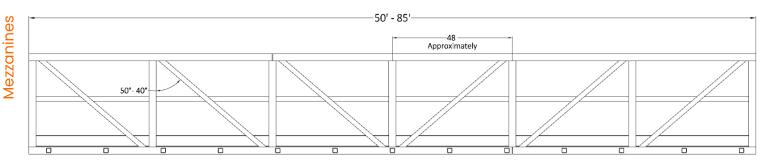
430 lbs. misc. WIP

-Truss Structure is the guardrail.

-Midrail: Flatbar

-No additional material or storage mounted to guardrail.



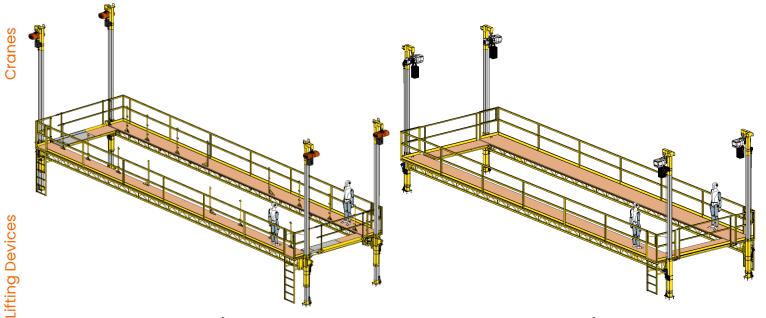


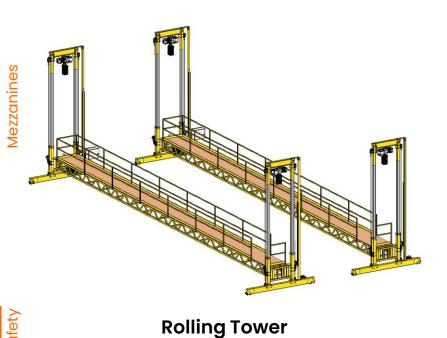
P: (574) 646-2015

For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice. pwiworks.com

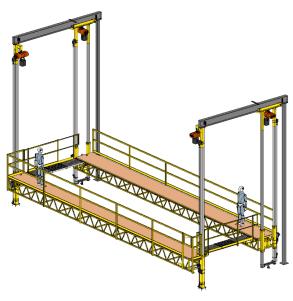
Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments.

Tower Options





Standard Single Tower



Reversed Single Tower

Suspended Tower





Inner Guardrail Options

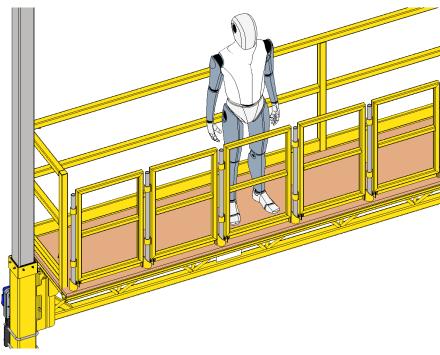
Product Description

- Cam Gates
- Good option for inner guard rail when there is a big differential between the largest unit and shortest unit that is being built in the work platform.

Product Features

- Self Closing Gates
- Customizable Placement





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Inner Guardrail Options

Product Description

- Telescoping Guardrail
- Good option for inner guard rail when there is only a 7' differential between the largest unit and shortest unit that is being built in the work platform.

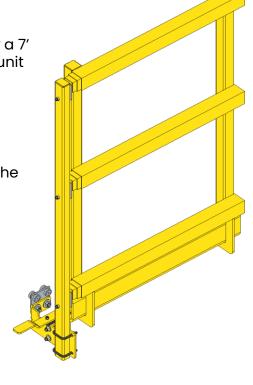
Product Features

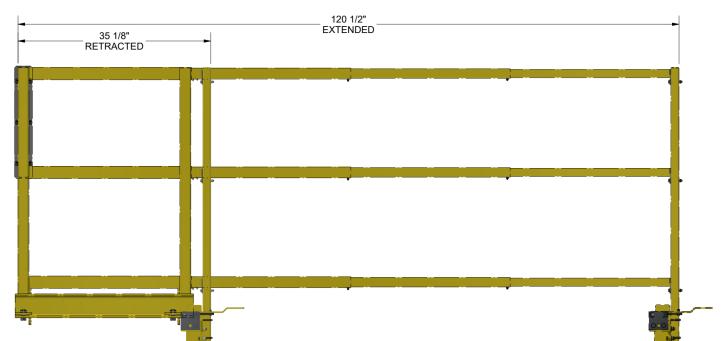
- · Linked to the rear of a crosswalk
- Retracted base can be installed anywhere along the 300 series track of the work platform.
- Work Platform Requirements
 - Width ≥ 36"

ifting Devices

Mezzanines

• 300 Series Track











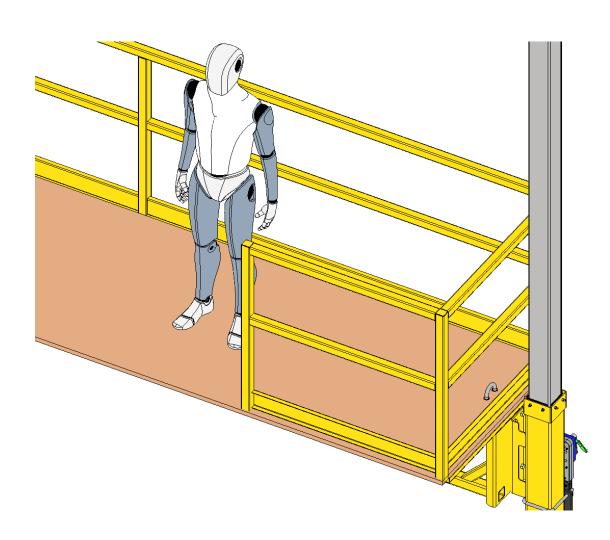
Inner Guardrail Options

Product Description

- Fixed Guardrail
- Good option for inner guard rail when there is only no differential between the largest unit and shortest unit that is being built in the work platform.

Product Features

Welded to the top of the 300 Series track



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GUARDIAN Work Platform



Inner Guardrail Options

Product Description

- Rachet Strap Guardrail
- Good option for inner guard rail when there is a large differential between the largest unit and shortest unit that is being built in the work platform.

Product Features

- Removable posts
- Pockets installed every 12"
- Straps are used for the top, middle, and bottom rails



Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments.

For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.







Inner Guardrail Options

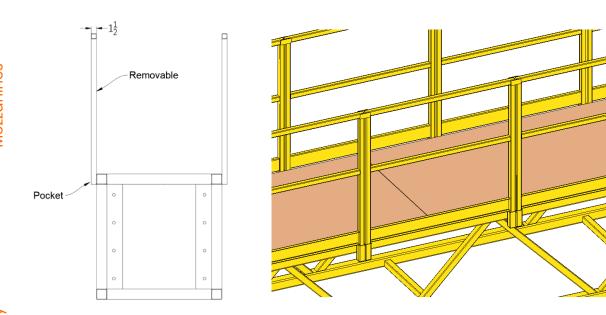
Product Description

- Removeable Guardrail
- Good option for inner guard rail when there is a large differential between the largest unit and shortest unit that is being built in the work platform. Also good option when there are specific areas that the workers plan to walk onto the units.

Product Features

Lifting Devices

- · Removable guardrail section
- Recommended section length 4'-8'



Product specifications and dimensions are approximate and for informational purposes only. Variations may occur due to design or manufacturing adjustments. For exact measurements, please confirm with our customer service before ordering. PWI reserves the right to modify specifications without notice.







Inner Guardrail Options

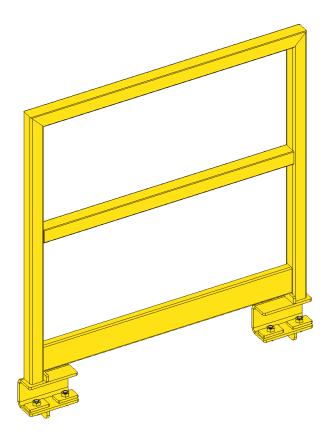
Product Description

- Bolt-on Guardrail
- Good option for inner guard rail when there is a large differential between the largest unit and shortest unit that is being built in the work platform, but the assembly line doesn't switch units very often.

Product Features

ifting Devices

- Clamps into the 300 Series Track
- Removable guardrail section
- · Recommended section length 2'-4'





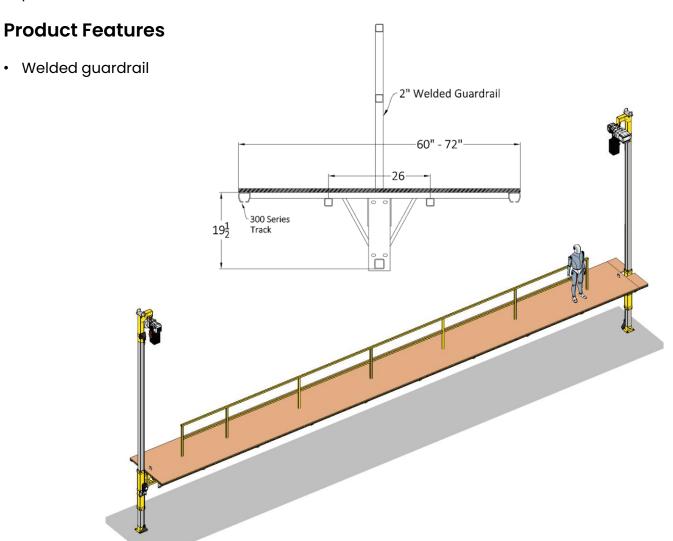




Inner Guardrail Options

Product Description

- Centered Guardrail
- Good option for inner guard rail when there are multiple work platforms in a row that are connected with crosswalks. Units can be stationed on either side of the platform and workers have access to both units.







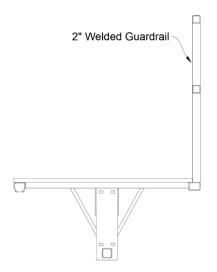




Outer Guardrail Options

Product Options

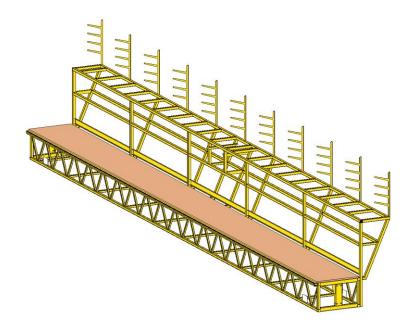
- Standard welded guardrail
- Saw tables
- Finger racks
- Airline guardrail

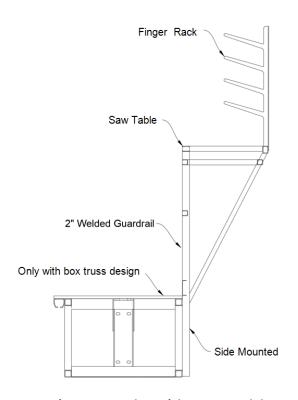


Standard Welded Guardrail



Airline Guardrail





Finger Racks with Saw Table





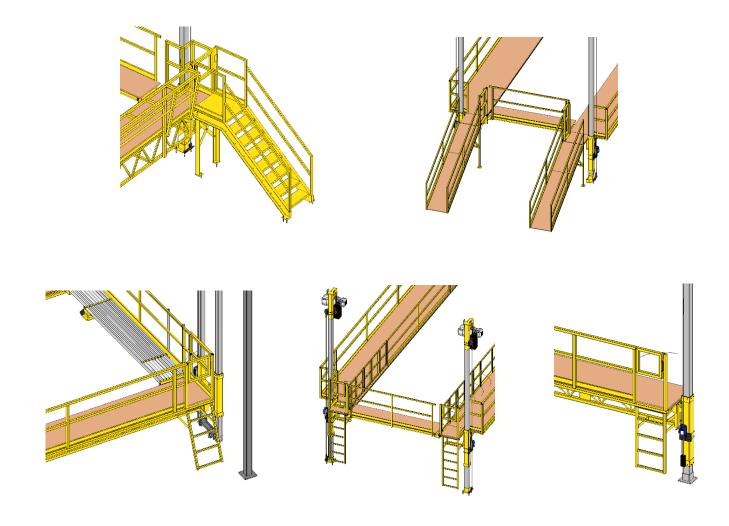


Entrance Options

Product Options

Cranes

- Walk-on from Mezzanine
- Walk-on from Outrigger
- Walk-on from Stair
- Walk-on from Ramp
- Climb-on from Fixed Ladder
- Climb-on from Telescoping Ladder







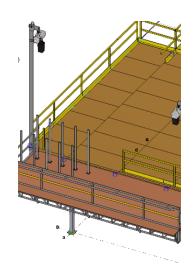
Mezzanines

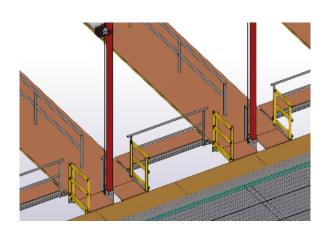
GUARDIAN Work Platform

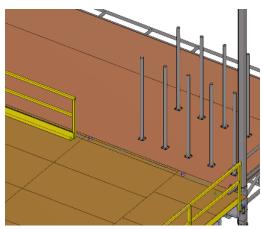
Entrance Options

Walk-on from Mezzanine

Walk-on from Outrigger

















Cranes

GUARDIAN Work Platform



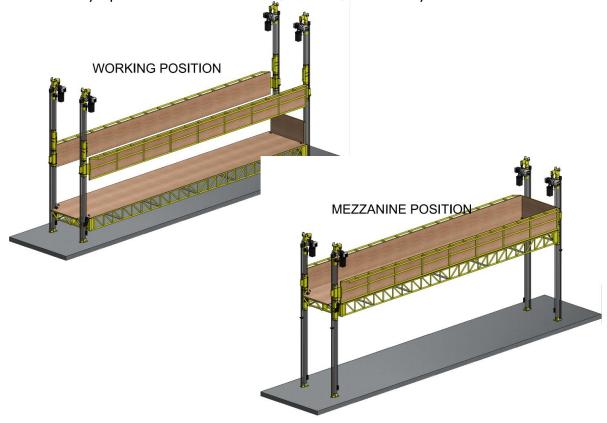
Material Platform

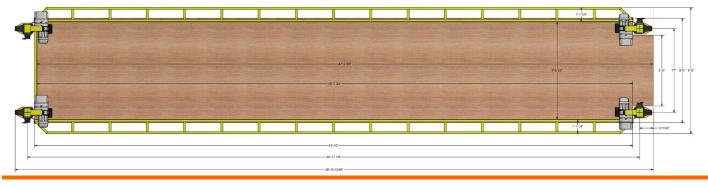
Product Description

 An oversized platform to transport material from a mezzanine to the production line.

Product Features

- Separating guardrails to allow material to be unloaded at the lower level
- · Load Arrestor System for added safety
- · Wireless controls
- Additional safety options include beacons, buzzers, time delays











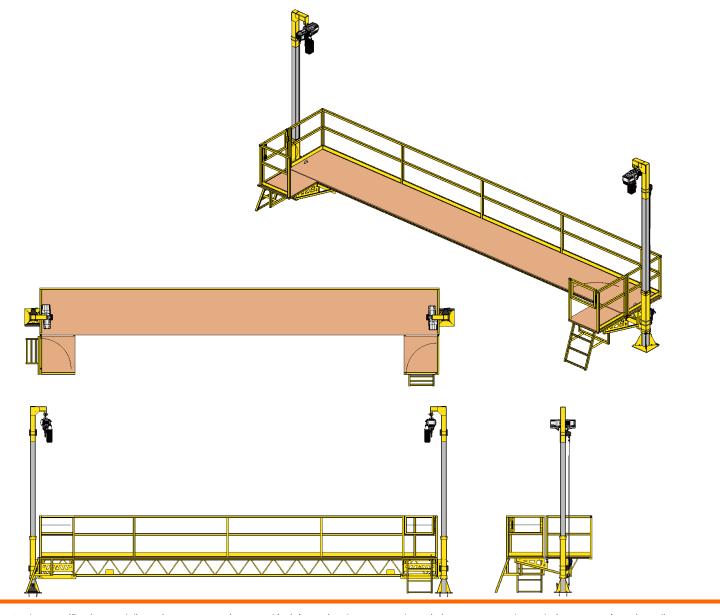
Single Work Platform

Product Description

 A single work platform used at stations where only one side of a unit needs to be accessed, or when a workstation is outside of the main production line.

Product Features

- Load Arrestor System for added safety
- Wireless controls
- · Additional safety options include beacons, buzzers, time delays









Standard Crosswalk

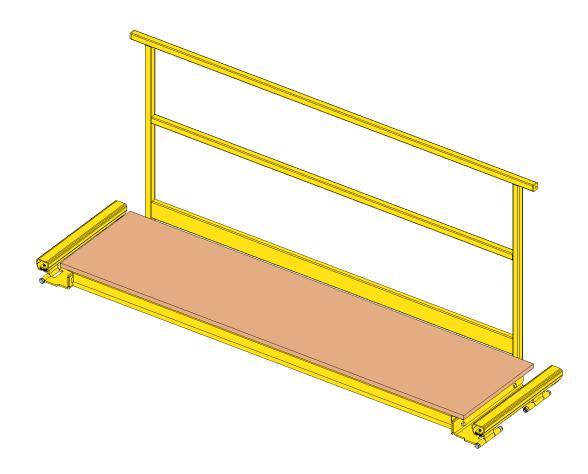
Product Description

- PWI's standard crosswalk allows the manufacturer to walk from one work platform to the adjacent work platform. This saves the manufacturer time to in having to exit the work platform and entering from a different entrance. The sliding guides inside the 300 series track allows the operator to move the crosswalk close enough to the unit so there is no risk of falling.
- Model #: SCW

ifting Devices

Product Features

- Capacity: 1 person + 50 lbs. of tools
- Inner Guardrail Compatibility: Telescoping Guardrail, Bolt-on Guardrail, Welded Guardrail
- Inside Treatment Options: Corner Fill-in, Gap Fill-in, Inner Guardrail
- Rear Guardrail: Welded
- Max work platform differential: 4'







GUARDIAN Work Platform



Expandable Crosswalk

Product Description

PWI's expandable crosswalk serves the same person as the standard crosswalk, but
the multi-section floor design eliminates the need to for inner guardrail almost
entirely. The first section of the expandable crosswalk (base) is clamped to the 300
series track to so that it can't move. The rest of the floor sections expand in and out
from the base to close the gap to the unit so that there is no risk of falling. This
crosswalk is ideal for manufacturing different lengths of units within the same work
platform station.

Model #: ECW

Lifting Devices

Product Features

- Capacity: 1 person + 50 lbs. of tools
- Inner Guardrail Compatibility: N/A
- Inside Treatment Options: Corner Fill-in, Gap Fill-in, Inner Guardrail
- Rear Guardrail: U-bolted
- Max work platform differential: 4'
- Panel Quantity Options: See Diagram C
- Hand Break for Safety

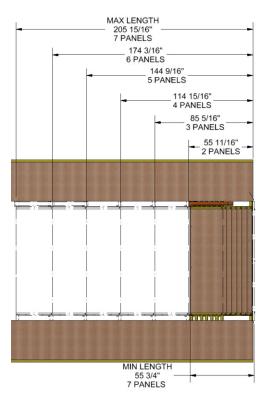


Diagram C

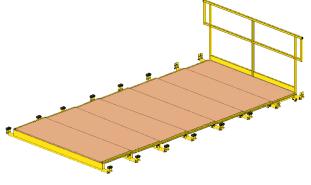


Diagram B

Diagram A

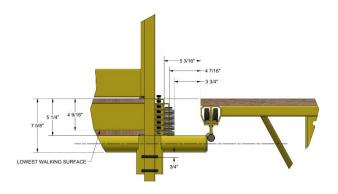


Diagram D







Expandable Crosswalk Handbrake

Product Description

 PWI's Expandable Crosswalk Hand Brake allows the user to lock the Expandable Crosswalk in place, increasing work platform safety by preventing backward and forward movement of the cross walk.

Product Features

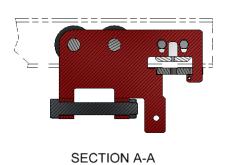
- Mountable on top or the side of the crosswalk
- · Cable braking system
- Durable
- Ergonomic design
- Increases safety and productivity
- · Crosswalk stability
- Easy to install
- Easy to maintain
- Product Dimensions 16"L x 3.4" W

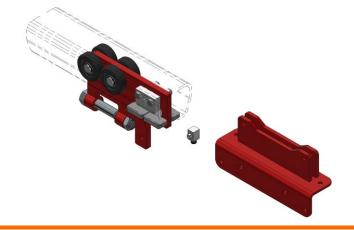
















Cranes

GUARDIAN Work Platform

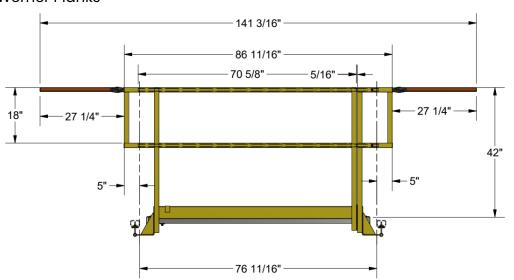
Telescoping Crosswalk

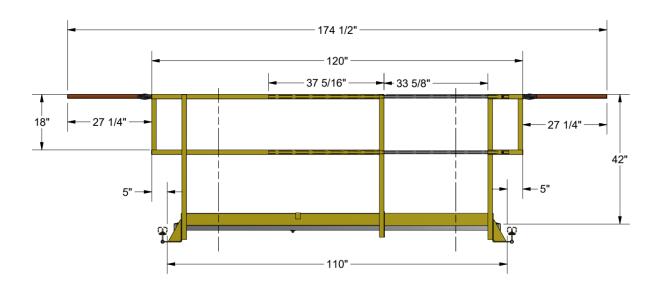
Product Description

- Enables adjustability in the work platform's working area.
- Model #: TCW

Product Features

Modified Werner Planks









Mezzanines

GUARDIAN Work Platform



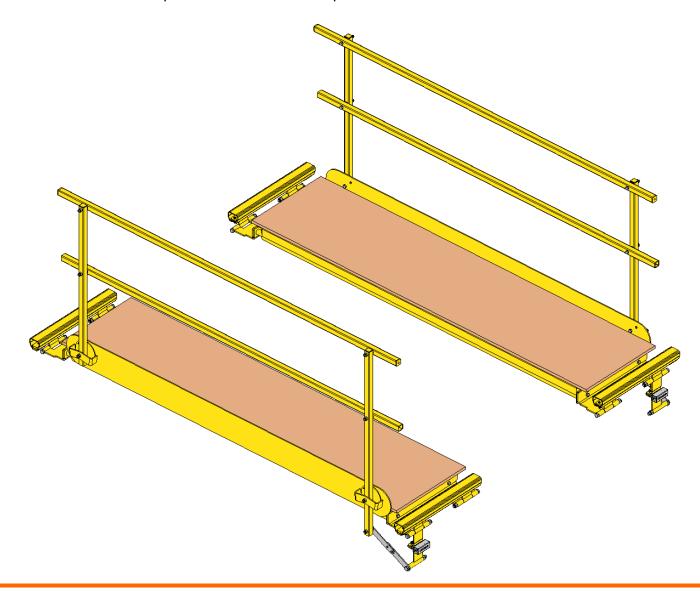
Pivot Rail Crosswalk

Product Description

- A crosswalk to allow access between work platforms. The guardrail pivots
 when there is varied height between work platforms, as they are raised and
 lowered. This helps to avoid collisions with any guardrail or items on the
 interior of the work platform.
- Model #: PCW

Product Features

Inside Treatment Options: Corner-Fillin, Gap Fillin, Inner Guardrail









Cantilever Crosswalk

Product Description

- A cantilever crosswalk can be used on a single platform to allow access around the front or back of a slide out. When used in a set a platforms, they allow the passage of a hoist chain between them while still a providing personnel access to both platforms.
- Model #: CCW

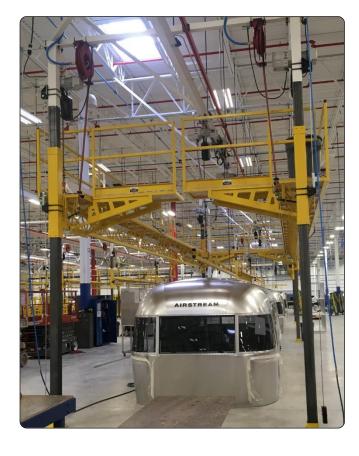
Cranes

Lifting Devices

Mezzanines

Product Features

- UHMW on sliding surfaces to provide smooth operation
- Safety guardrails









Cranes

pwiworks.com

GUARDIAN Work Platform



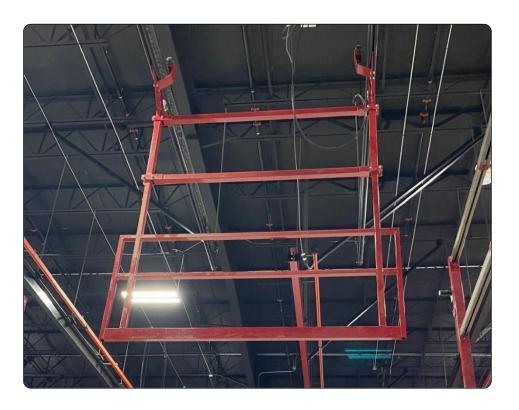
Traveling Guardrail

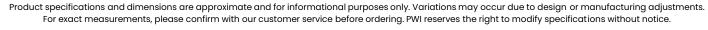
Product Description

- Traveling guardrail is used to protect personnel working on the roof of a unit.
- Using 300 series track, the guardrail system is installed in a custom runway system for limitless travel through a workspace.

Product Features

- End truck wheels include ball bearings and acetal plastic treads
- Adjustable height and position
- · Pneumatic brake activated with remote









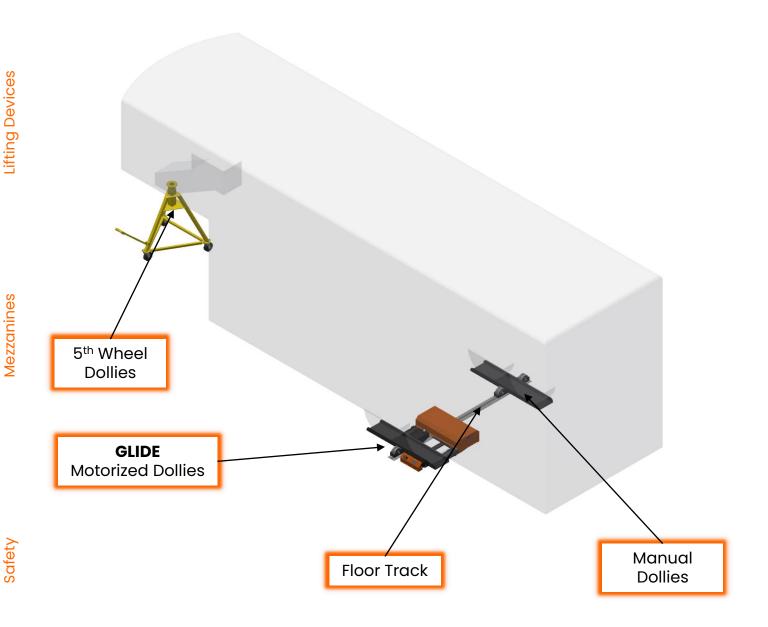
Dollies



Info Diagram

Product Description

Dollies are typical for transportation ease of RV's and other large vehicles. Dollies can improve safety while also increasing efficiency. Our team will help you design or pick out the dollies best suited for you to meet your manufacturing workflow.







Cranes

Ti

Towable Tandem Axle Dolly With Track

Product Description

• Motorized RV Production Line Dolly

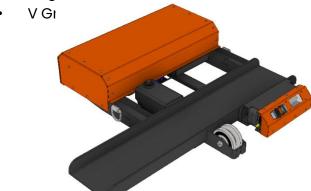


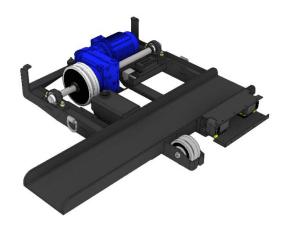


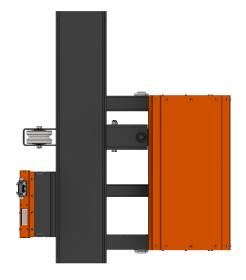


Product Features

- Pendant Controlled
- DC Powered: (2) DeWALT Flex Volt Batteries
- Variable Speed Control
- Safety horn and strobe light during operation
- Capacity: 3.5 Ton
- Angle Iron Floor Track











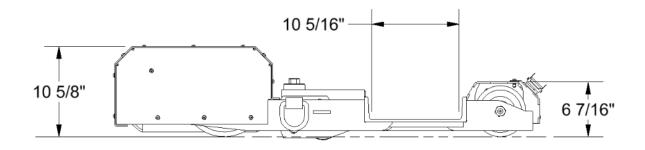


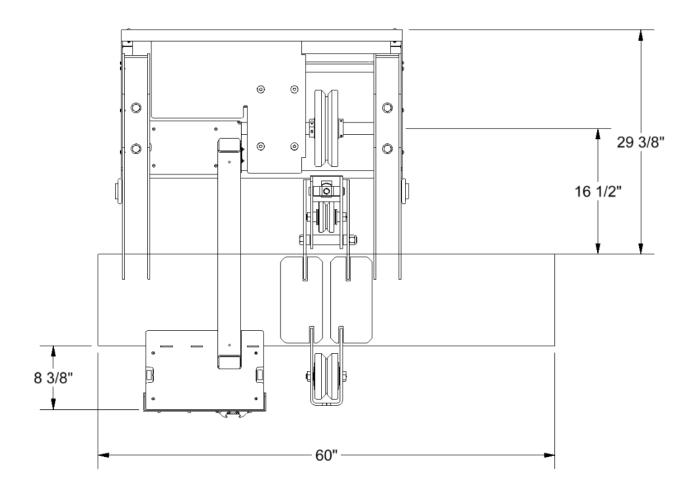


GLIDE Motorized Dollies



Towable Tandem Axle Dolly With Track









GLIDE Motorized Dollies



Towable Tandem Axle Dolly Without Track

Product Description

• Motorized RV Production Line Dolly







Product Features

- Pendant Controlled
- DC Powered: (2) DeWALT Flex Volt Batteries
- Variable Speed Control
- · Safety horn and strobe light during operation
- Urethane Wheels





Drawings coming soon...





Cranes

Towable Tandem Axle Dolly Without Track

Product Description

Motorized RV Production Line Dolly







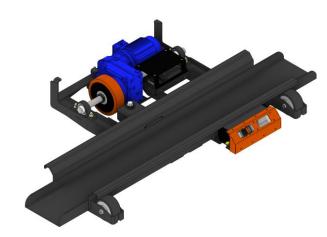
Product Features

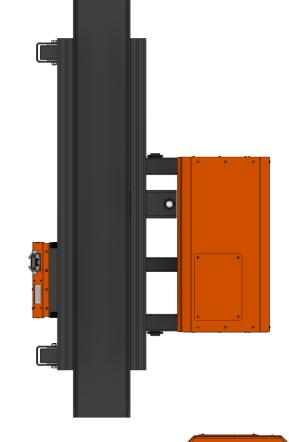
- Pendant Controlled
- DC Powered: (2) DeWALT Flex Volt Batteries
- Variable Speed Control
- · Safety horn and strobe light during operation
- Capacity: 5 Ton
- Urethane Wheels

















Towable Tandem Tri-Axle Dolly With Track

Product Description

Motorized RV Production Line Dolly







Product Features

- Pendant Controlled
- DC Powered: (2) DeWALT Flex Volt Batteries
- Variable Speed Control
- · Safety horn and strobe light during operation
- Capacity: 7 Ton
- Urethane Wheels
- V Groove Wheels





Drawings coming soon...







GLIDE Motorized Dolly Lifter/Cart



Product Description

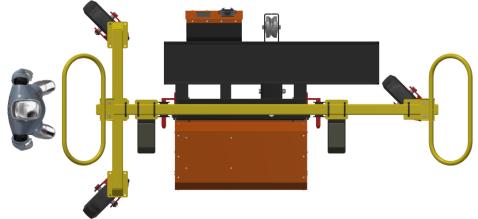
• Motorized RV Production Line Dolly Lifter/Cart



Product Features

- DC Powered: (1) DeWALT Flex Volt Battery
- Powered Lift









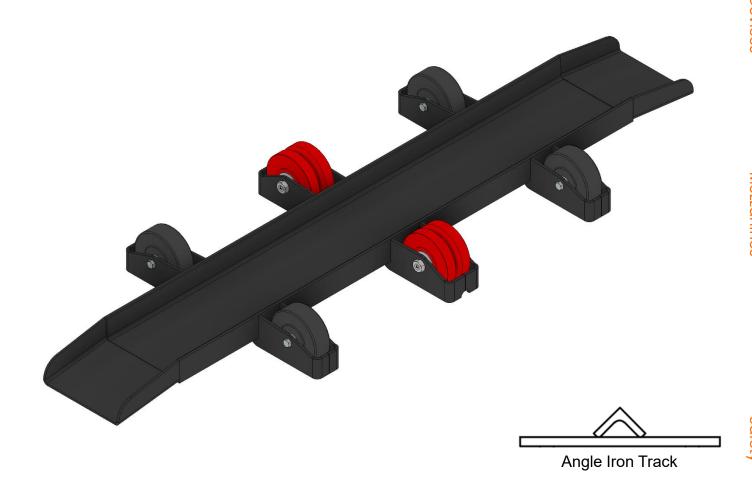


Manual Towable Tandem Axle Dolly



Product Features

- Manual operation
- Angle iron floor track
- V groove wheels





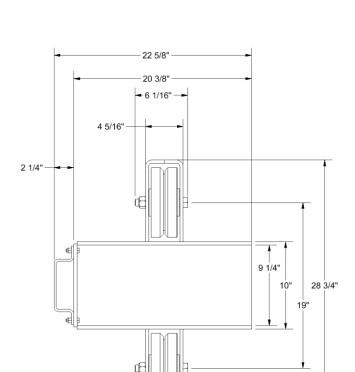


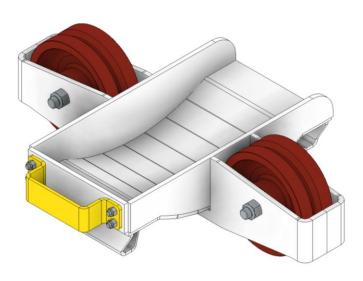
Aluminum Single Pocket Dolly

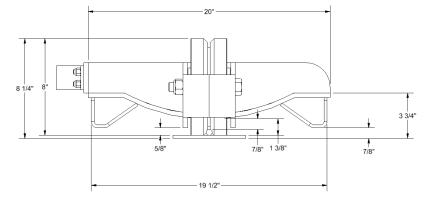


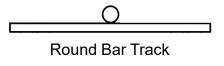
Product Features

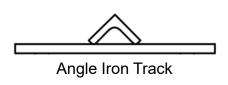
- Aluminum for easy handling
- Angle iron or round bar floor track
- V groove wheels













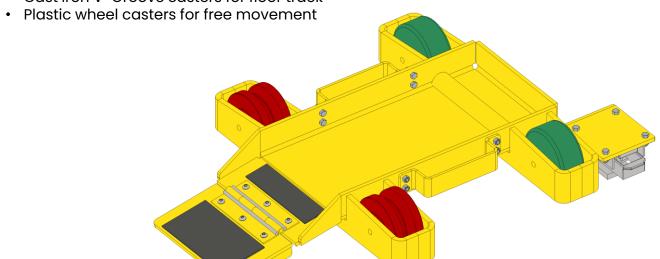


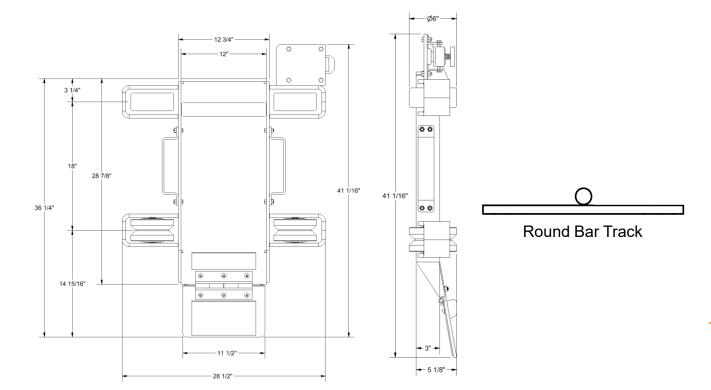
Manual Single Wheel Dolly



Product Features

- · Manual operation
- Configurable for different units
- Optional floor lock
- Caster Types
 - Cast iron V-Groove casters for floor track







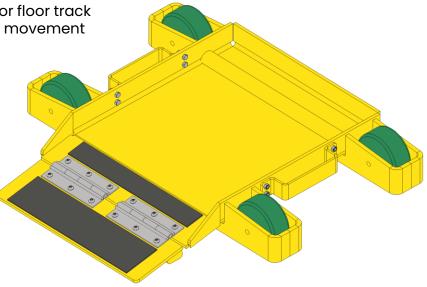


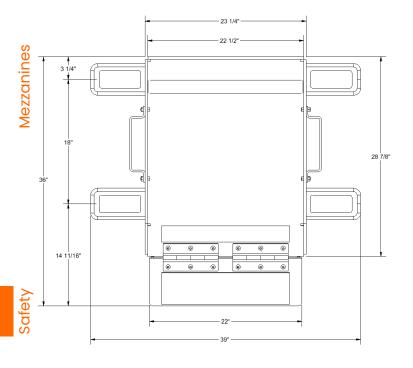
Manual Dual Wheel Dolly

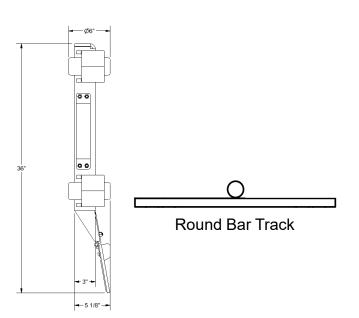


Product Features

- · Manual operation
- Configurable for different units
- Optional floor lock
- Caster Types
 - Cast iron V-Groove casters for floor track
 - Plastic wheel casters for free movement











Floor Track

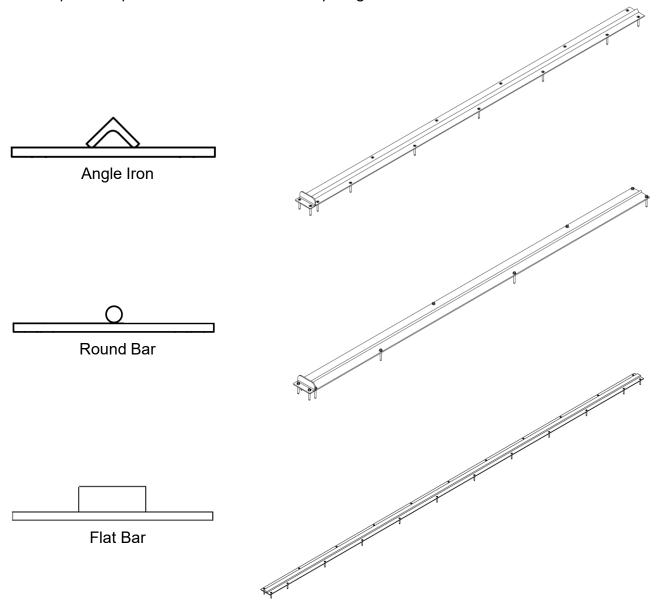


Product Description

 Floor track is useful for a variety of applications. For guides for gates, gantry cranes, rotators, or dolleys. It is important to choose the correct track based on the application.

Product Features

- · Floor Types: Wood or Concrete
- End Stops and splices to accommodate any length







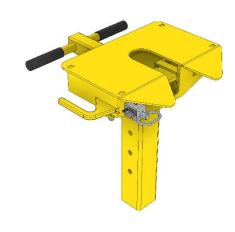
Manual 5th Wheel Dolly



Product Features

- Capacity: 3,600 lbs.
- Three wheeled design for stability
- Tow handle for ease of use
- Adjustable Height











Motorized 5th Wheel Dolly



Product Description

• Motorized RV Production Line Dolly

Product Features

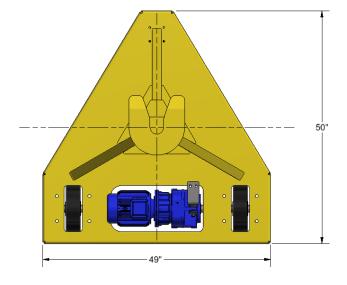
- Pendant Controlled
- DC Powered: (2) DeWALT Flex Volt Batteries
- Variable Speed Control
- · Safety horn and strobe light during operation

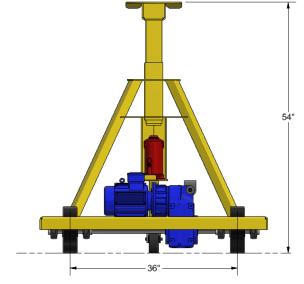


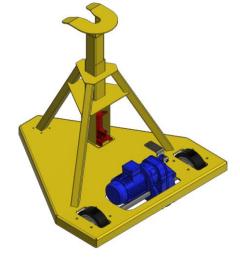


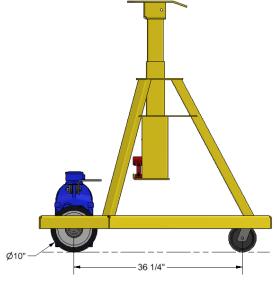














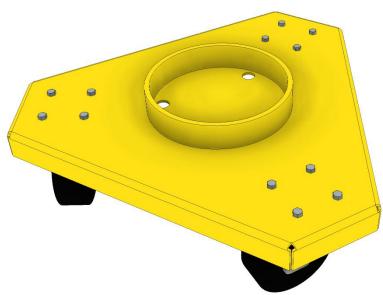


Front Fifth Wheel Jack Dolly



Product Features

- Capacity: 3,600 lbs.
- Three wheeled design for stability Compatible: fifth wheel front jacks









Front Travel Trailer Dolly



Product Features

- Capacity: 3,600 lbs.
- Three wheeled design for stability Tow handle for ease of use





