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GORBEL®
A CLASS ABOVE

CRANES

PRE-ENGINEERED TARCA® CRANE SYSTEMS

STYLE	FLOOR SUPPORTED & CEILING MOUNTED
CAPACITIES	2 TONS AND UP
SPANS	UP TO 55'
TRACKS	TARCA® PATENTED TRACK

Gorbel® Pre-Engineered Tarca® Crane Systems

A Name Built on Quality

Since 1977, Gorbel Inc. has specialized in overhead material handling solutions, providing the highest quality and highest performance products on the market today. We are the leading supplier of Work Station Crane systems, offering near perfect on-time delivery, a focus on customer service and the industry's best warranty.

Why Choose a Pre-Engineered Tarca® Crane System?

Industry's Best Warranty
2 Years on all Crane systems.

Designed for Crane Applications
Gorbel® Crane Systems specify which beam to use for each application. We do not "Suggest" or "Recommend" any materials be used.

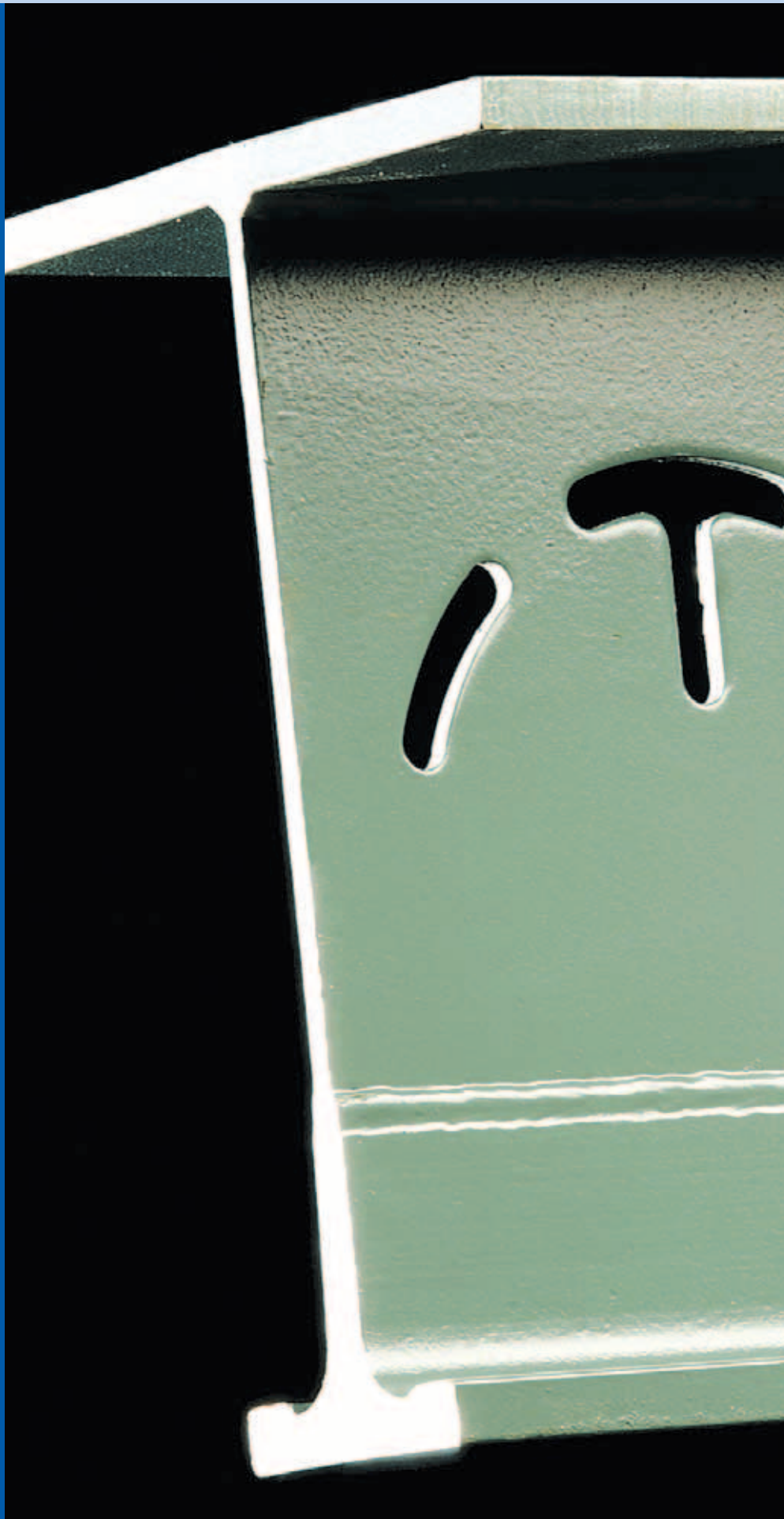
Ease of Installation
All components are built and assembled with jigs and fixtures which ensure easy installation.

Improved Performance
Tarca® Systems are designed to be superior to I-beam cranes in strength, durability, and consistency.

Local Representation
Gorbel® cranes are sold and serviced by a nationwide network of material handling specialists that provide solutions suited to your needs and your budget.

Versatility
Gorbel® makes a complete line of cranes to meet your individual needs

Safety
All cranes are pre-engineered for powered hoist operation with an impact factor of 15%.



Tarca® Track For Durability and Strength

Gorbel's pre-engineered crane systems are built using our unique patented Tarca® Track, which continues to be the benchmark of the overhead material handling industry.

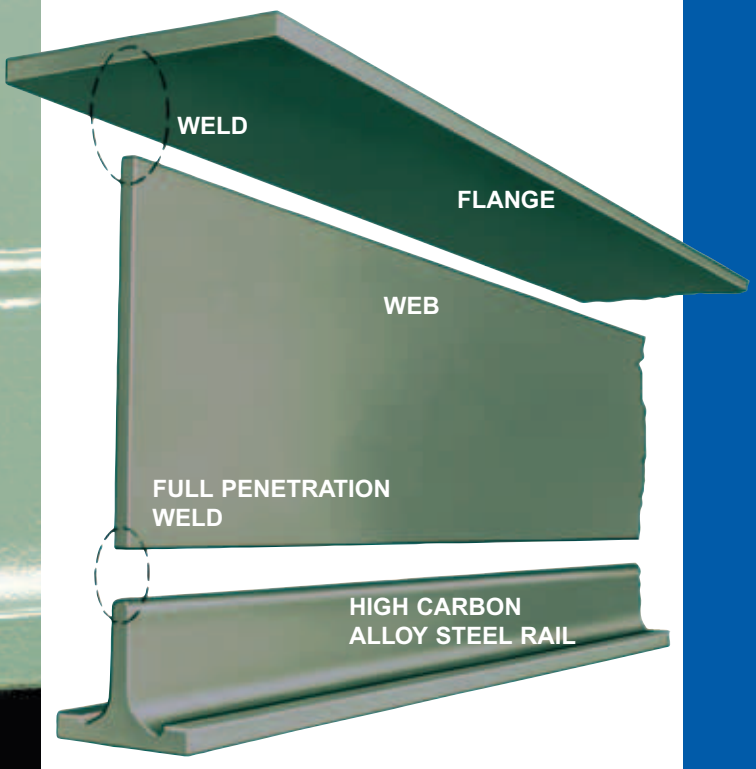
Its three piece welded construction is a compound section of a mild steel top flange and web and a specially rolled high-carbon steel lower rail. Tarca® systems are characterized by consistently straight rail sections and durable, high quality Tarca® components. Our Tarca® systems offer unmatched versatility, durability and ease of installation.

Why Tarca® Track Over Structural Steel Track?

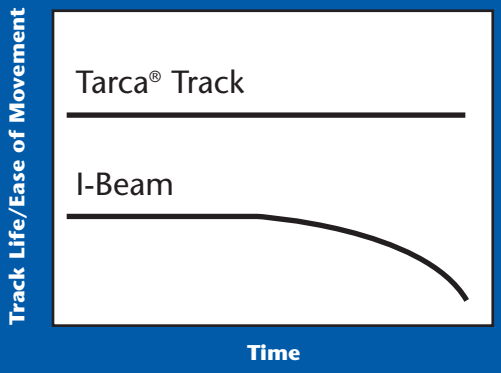
A structural I-beam is rolled from soft, mild steel according to fairly loose steel mill tolerances. Its beveled flange prevents wheels from making balanced contact, causing uneven wear and a shortened track life.

Gorbel's unique Tarca® Track, with its special raised tread and high carbon track, is superior to I-beams in strength, durability and consistency. Our exclusive rails permit the use of:

- Underhung carriers operating on a single straight, curved or inclined track
- Underhung cranes operating on two or more straight track runways.



Tarca® Outlasts and Outperforms I-Beams Over Time—Every Time!



Why choose Gorbel® Pre-Engineered Tarca® Track Systems for extended capacities?

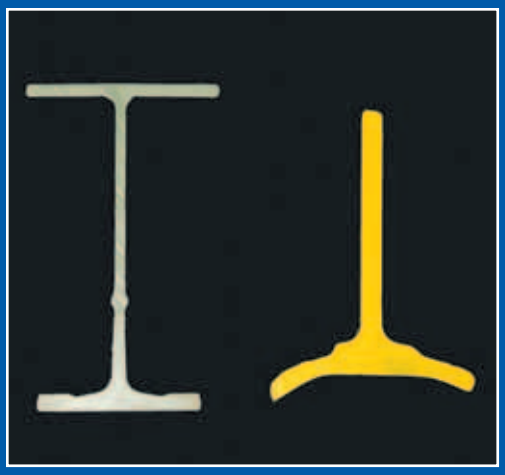
- *Tarca®* Track & components stand the test of time
- Lower installation costs
- High quality designs mean reduced maintenance costs

Tarca® Track has a mild steel top flange and web and a high carbon steel lower rail with raised tread to resist peening.

Continuous welding adds rigidity needed to cope with bending and twisting stresses of the most demanding applications.

The web and flange dimensions of each size are proportioned for maximum strength and spanning efficiency.

Tarca® Track: Engineered for Crane Applications



Peening caused the mild steel flange on this I-beam (on right) to bend, making it completely unsafe for crane travel.

Strong, Durable Rail

Tarca® vs. I-beam

High carbon flange means longer track life

A common source of track wear is a process known as *peening.* Peening is the gradual movement of metal over time, caused by the rolling action of wheels. Because of I-beam's mild steel construction, peening tends to occur unevenly, weakening the beam flange and restricting smooth easy travel.

Tarca® Track's raised tread design and extra hard alloy steel construction slow down the peening process. The full width of the raised tread wears evenly, extending track life well beyond that of I-beams.

Our raised tread provides durability and superior safety

The raised tread on Tarca® Track is 20 - 25% of the Tarca® rail thickness. And though this does add some strength, our stress calculations do not include the strength added by the raised wearing tread. That means you get even more strength and dependability because the rated capacity of the track is not affected by wear.

Since I-beams have virtually no raised tread, their initial load carrying capacity is in the total cross section. As a result, capacity and safety are greatly reduced as soon as the tread begins to wear.

100% weld penetration ensures quality

Tarca® Track is manufactured using stringent quality assurance procedures. This is the basis for certifying 100% weld penetration for maximum strength, safety and rigidity. Extreme care is taken during track fabrication to maintain dimensional tolerances. Our tracks are straight and true with minimum distortion, so:

- Installs are quick and easy
- Load distribution is uniform
- Tracks and components last longer

Stop Throwing Away Your Installation Dollars!

Our stringent quality standards in manufacturing guarantee consistently straight, high quality beams. Plate is cut to size and leveled by precision machinery. Special equipment uses continuous welds to insure absolutely straight, uniform track. Standard mill practice dimensions for I-beams have tolerances more than twice those for Tarca® rail. For example, allowable sweep per 10' of structural beam may be as high as 1/4" while Tarca® rail is less than half that at 3/32".

Is It Really Cheaper to Use an I-Beam?

Consider the time and money you're throwing away during installation: redrilling holes and cutting, fitting, and shimming rails in order to align I-beams that aren't straight. Our consistently straight rails result in easy, predictable, cost effective installations.

Straight Rails Make System Expansions Easy

These tight quality standards even make system expansion and reorganization easier and more cost effective. Consistently straight beams will reduce labor costs when you want to expand a crane system or rearrange a work area.

Our Weight Is In All the Right Places

Efficient Design for Spanning

The thickness and width of Tarca®'s web and flange for each size have been carefully engineered to maximize strength and loading capability while minimizing weight. Tarca®'s three piece welded construction:

- Delivers maximum load carrying capacity to dead weight ratios
- Provides ability to cost effectively span longer distances
- Eliminates costly additional supporting structures
- Reduces drag in a manual system

I-beam simply can not match Tarca®'s carrying capacity to dead weight ratio. Structural I-Beams are manufactured for a purpose other than overhead material handling. Because of this, they are manufactured to much looser mill tolerances than many crane and monorail applications require.

Standardized Lower Flange

Standardized lower flange provides compatibility

Tarca® track features the same 3-1/4" wide lower flange regardless of rail height or load carrying capacity.

- Allows systems to be easily expanded or rearranged
- Ensures compatibility of components
- Lower costs when suspension points vary

The lower flange of an I-beam increases in width and thickness as its depth increases. Beams of different sizes are therefore not compatible. The result? I-beam crane systems are costly and difficult to expand or relocate.

Rugged, Long Lasting Components

Hardened wheels to ride on high carbon track

Our forged, heat-treated wheels are built to last. They provide years of smooth, easy movement and reliable service. They have been:

- Designed to roll with minimal resistance (2 times easier than I-beam)
- Machined to meet the surface of the track for consistent, full contact and longer life
- Engineered to avoid flat spots for smooth, uniform rolling

Rugged end trucks and carriers

Gorbel® end trucks have been carefully engineered to provide the finest performance with little or no maintenance.

Extended drive life

All gears and shafts in Gorbel® drives are made with a remarkable alloy-steel that was chosen after long, grueling tests. This special alloy allows the drives to hold up to the wear and tear of constant service. This adds many years of reliable service to the motor head.

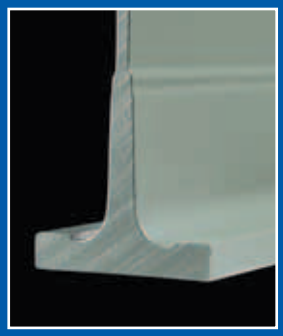
Flexible Suspensions

Flexible suspensions provide longer system performance and lower maintenance costs

Tarca® Track is suspended using ball and socket connections, permitting the track to float in all directions. This means it can compensate for structural movement by allowing tracks to move and adjust to crane wheel centers. This:

- Prevents damaging stress
- Dampens shock loads
- Allows for smoother operation

In other words, Tarca® rails can adjust to loads as they move, enabling carrier wheels to maintain consistent contact. This "load balance" of the wheels and components allows for longer life with less maintenance.



***Our Tarca® Track's* standardized lower flange provides compatibility.**

Case Study: Tarca®: A Better Solution than I-Beam

Tarca® Keeps Truck Maintenance Company Moving

A Western New York company provides maintenance and customization on heavy truck parts. Heavy parts weighing between 1 and 3 tons are moved into the building and then 25′ across the building to a staging area where they are worked on.

Problem

Prior to installing a Tarca® system, the company was using fork trucks to move the parts, but the fork trucks were causing congestion, parts damage, and safety issues. The company was also looking to maximize the floor space in the building so they could make room for big trucks and parts, and they were hoping for a system that could be moved if needed.

Solution

This company chose to install a 3-ton Free Standing unbraced Tarca® system with a 28′ bridge, 39′ runway, 16′ height under boom, and 37′ support centers.

Why was Tarca® the Smart Solution?

The Tarca® system is free standing, and the supports are close to the building walls, allowing room in the facility for safe movement and storage of trucks and parts. Because the system is not braced to the walls, it can be relocated if the need ever arises. Plus, using the crane system is much safer than using the fork trucks.

Tarca® Interlocks

How do our interlocks operate?

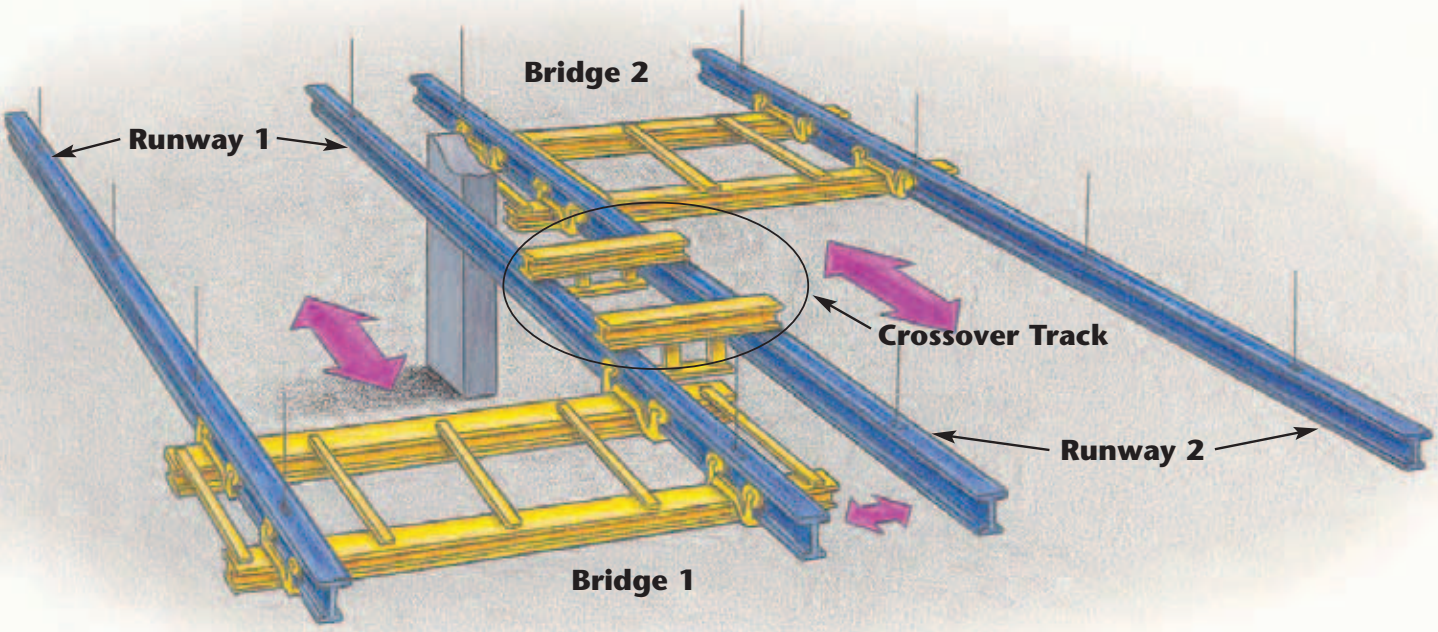
1. Both bridge girders approach the crossover track. The operator pushes a button powering a gear motor that activates a pair of rollers (see Photo 1).

2. The bridges line up with the crossover track. The rollers move from the interlocking beam toward a wedge type engaging mechanism on the crossover track (see Photo 2).

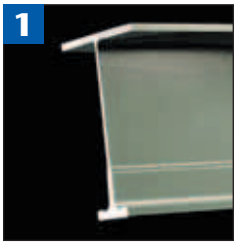
3. The rollers make contact with the wedge and self-align within 1-1/4" horizontal range. As both beams are interlocked, forks on powered and non-powered beams are raised for free passage of carrier (see Photo 3).

4. To disengage the interlock, the operator pushes a second button. Motor driven rollers move back and away from wedge, allowing forks to drop and make contact with rail tread. This prevents the carrier from travelling off the open end of the beam.

Our interlocks let you move your loads around anything—even building columns.



Gorbel® Bridge Components



Tarca® Rail

Tarca® Track features specially rolled high-carbon alloy steel rail with raised treads welded to a steel flange and web.

Tarca® is designed to provide maximum spanning capability for heavy loads while minimizing the weight of required material. Its material properties resist peening and assure a longer operating life than ordinary track designs.

Photo shows carrier with drive and SAFPOWRBAR® electrification.

Carriers (Trolleys)

Gorbel® carriers provide the connection between the lifting device and the bridge. Our carriers are designed for years of peak performance:

- The wheel base is proportioned for smooth, vibration-free carrier operation.
- Swiveling yoke provides unmatched performance through curves and switches on monorail systems, contributing to longer track life.
- Precision manufacturing and specially designed wheels assure consistent wheel to rail contact.
- The extensive variety of our carriers provides endless flexibility to tackle any application.
- Manually driven carriers are also available.

Belt-driven model shown here.

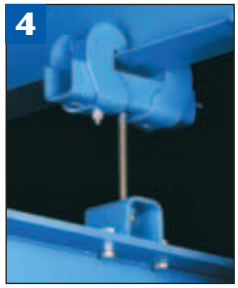
Motorized Drives

Gorbel's drives motorize the travel of carriers and end trucks. We offer:

- A gear driven drive, the best choice for most applications.
- A belt driven drive designed to be a lower cost alternative to the gear driven drive.
- A tractor driven drive for specialty systems, such as pulling loads up a slope or for use in wet conditions.

Our drives were specially designed to make them long wearing and easy to service.

- Guide rollers equipped with anti-friction bearings align wheels on track for easy movement.
- Split frame construction for easy removal and reinstallation.



Hanger Assemblies

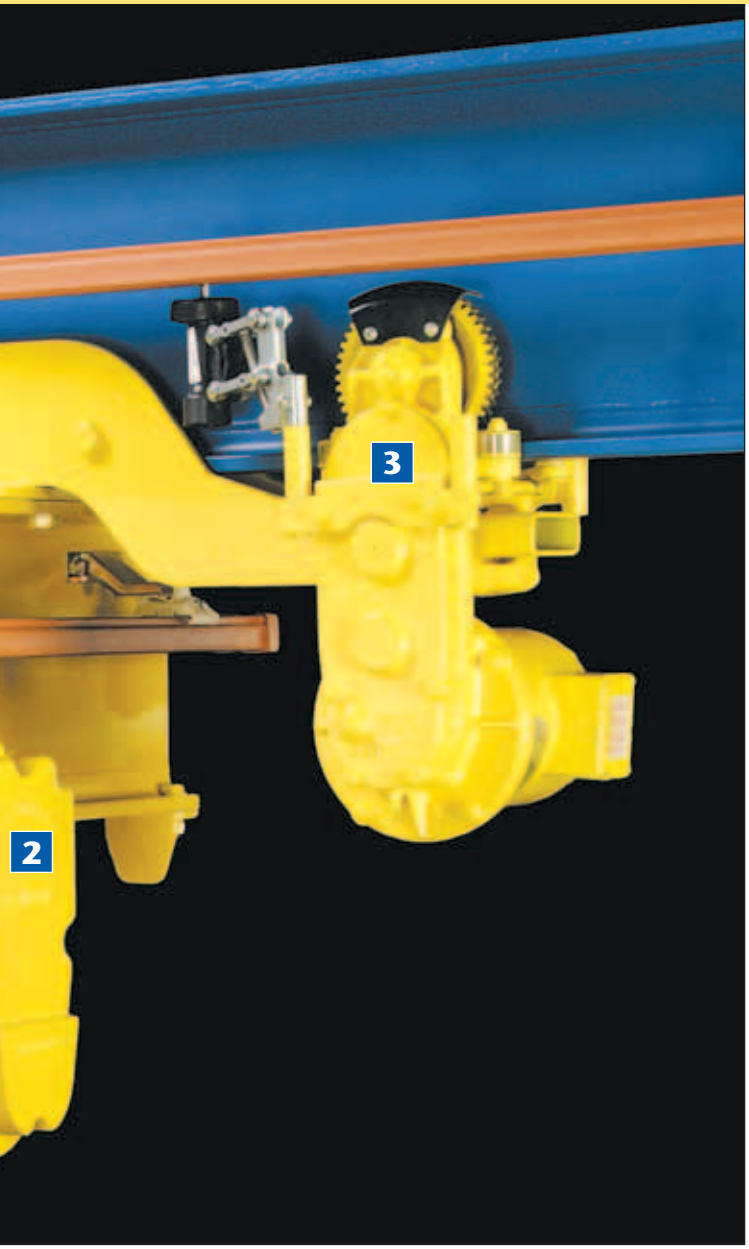
Our hanger assemblies provide a connection between the Tarca® track and structural support.

Ceiling Mount (shown)

- Ball and socket design compensates for structural shift.
- Teflon® coated chair washers provide durable, long lasting performance.

Free Standing Mount (not shown)

- Rigid mounted, bolted connection between the header and Tarca® rail.
- Easy to install.
- Maximizes headroom.



Motorized end truck shown here.

End Trucks

End truck with drive for motorized travel on runway

Gorbel® end trucks provide the connection between the bridge and runway. These rugged end trucks give you smooth, easy travel with little or no maintenance.

One advantage of our end trucks are their wheels. While other manufacturers have fixed wheels on their end trucks, our articulating wheels allow for irregularities in track and runways. End trucks can also be manually driven.

The photo at left shows a system with SAFPOWRBAR® electrification.

You can also choose Insul-8 Safe-Lec 2™ conductor bar for your runway electrification.

Electrification Options

(Brackets, Collector Shoe and Bar)

Gorbel® SAFPOWRBAR® Electrification is used to deliver electric power to drives and hoists. This rugged, durable system is made to perform in the most demanding applications and environments.

- Inverted U-shaped conductor bars enclosed by flame resistant insulated covers.
- Fiberglass molded insulators for double insulation, making them safer and more efficient.
- Sliding current collector shoes inside the bars make positive, continuous contact with three surfaces of the bar for longer life and easier maintenance.

End Stop

End stops are required and must be provided at the ends of the carrier or trolley travel on bridges and at the end of crane travel on runways.

Our end stops are unique in that they strike the end of the load bar, rather than the wheels. This prevents the wheels from absorbing the force of the load and reduces the areas of wear.

We offer standard wheel end stops for lighter applications and rubber, spring or hydraulic bumpers for higher speed conditions.

Designed to be Low Maintenance!

"We've experienced less maintenance with the Gorbel® installation in one year's operation than had been required in a single week of operation with the I-beam runway just prior to its replacement."

Plant Manager
Babcock & Wilcox unit of
J. Ray McDermott & Co.

Floor Supported Pre-Engineered Systems Tarca® Track Systems

Systems Specifications

Capacities	Up to 5 ton*
Spans	Up to 38'
Height Under Bridge	10' - 20'
Runway Support Centers	20' - 40' in increments**

* Consult factory for higher capacities
** Custom support centers available at no extra charge

Floor Supported System available in completely Free Standing designs or Braced designs:

Completely Free Standing Systems
- Completely independent of other systems.
- Ideal for applications where there is no adequate support steel.
- 6" reinforced floor required (no footings required).

Floor Supported Braced Systems
- Require the crane support steel to be tied back to another structure (i.e. building columns) capable of resisting lateral and longitudinal forces.
- Braced systems tend to be less expensive than completely Free Standing systems.
- 6" reinforced floor required (no footings required).

Ceiling Mounted Pre-Engineered Systems for Extended Capacities

Systems Specifications

Capacities	Up to 5 ton*
Spans	Up to 55’
Runway Support Centers	Up to 60’

* Consult factory for higher capacities
** Custom support centers available at no extra charge

Both Floor Supported and Ceiling Mounted Systems Include:

- Runways, Bridge(s), End Trucks, Hanger Assemblies, runway electrification, bridge festooning, crane drives, and controls.
- Floor Supported systems also include free standing structure.
- Bracing and hoists by others.

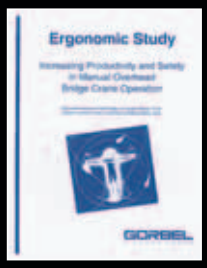
Your authorized Gorbel® dealer can give you more information on what makes Gorbel's Ergonomic Work Station Cranes and other material handling products "A Class Above."

Capabilities

Bridge Cranes (Enclosed Track)


Free Standing


Ceiling Mounted



Productivity & Safety

Jib and Gantry Cranes


Jib and Gantry Cranes


Work Station


Articulating


Gantry

Specialty Products (Enclosed Track)

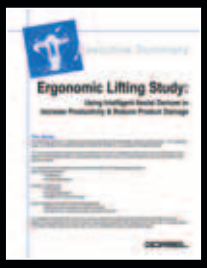
Tool Solutions

Pivot Pro

Fall Arrest

Intelligent Assist Devices


G-Force®/Easy Arm™



G-Force® Study

GORBEL®
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