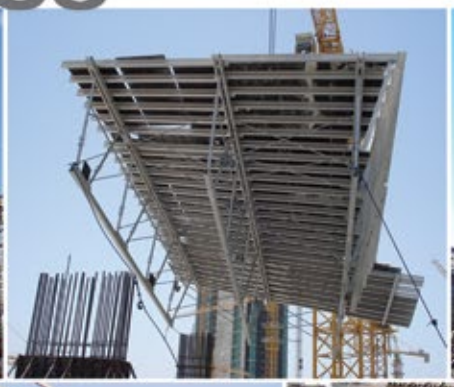
# Experience




# the Hi-Lite Advantage

HI-LITE
ALUMINUM CONCRETE SUPPORT SYSTEMS

## About Hi-Lite Systems

Aluminum is the leading edge material for concrete forming and concrete shoring products today.

Hi-Lite innovation is why.

Hi-Lite was formed in 1952 as Jackson Scaffolding. In 1974, Hi-Lite designed the first aluminum shoring system, thereby capturing the allegiance of project managers in North America and Europe.

Now, those same aluminum innovations are used in over thirty countries around the world.

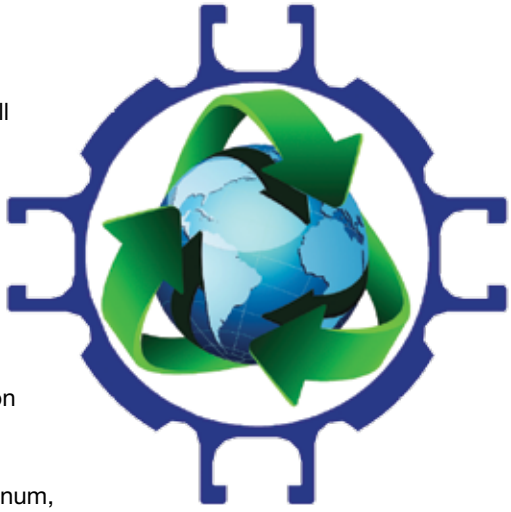
**Experience the Hi-Lite Advantage.**

## Hi-Lite is Aluminum . . .

The original designer and manufacturer of aluminum shoring frames, Hi-Lite has been an innovator and world leader in the shoring and forming industry for over sixty years. Hi-Lite products are designed to help contractors reduce costs and increase productivity:

- Ease of use and lightweight aluminum allow one worker to do more in less time.
- Designed to adapt to almost any condition to get the job done faster.
- Virtually maintenance free. Aluminum does not rust and never require painting.
- Extremely resistant to onsite damage, which increases their service life.
- Less inventory required results in lower storage, handling, and transportation costs.
- Aluminum is a semi precious metal that historically increases in value over time.

## . . . Aluminum Is Green.



- Aluminum is a durable and sustainable metal: Two-thirds of the aluminum ever produced is still in use today.
- Recovering aluminum for recycling saves money and dramatically reduces energy consumption. The aluminum container recycling process saves 92 percent of the energy needed to produce aluminum from bauxite ore, according to EPA's Waste Reduction Model (WARM).
- Of the most common recyclable materials aluminum, glass, paper, metals, corrugated paperboard and plastics, aluminum is the only material infinitely recyclable, 100 percent recyclable, and pays for itself.
- Aluminum is recycled 50 percent of the time, compared to glass and plastic, which are reprocessed less than 25 percent.
- Aluminum is significantly lighter than steel; therefore, it creates a 40 percent reduction in its carbon footprint during shipping.
- Aluminum does not degrade or lose any if its intrinsic physical properties during the recycling process. Recycled aluminum and virgin aluminum are inherently the same.

# About Hi-Lite Systems

## 12K Aluminum Shoring Frames

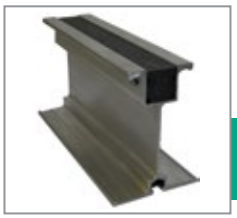
Almost any condition can be mastered with Hi-Lite's 12K Aluminum Shoring Frames using combinations of screw jacks, base plates and extension tubes. The adjustability of the system is your assurance that the project will proceed on schedule.

## 16/25K Aluminum Modular Shoring Frames

Hi-Lite 16/25K Modular Shoring Frames are designed for maximum adaptability in almost any condition. The Aluminum Modular Shoring Frame, an innovation we designed over thirty years ago, is now an industry standard all over the world.

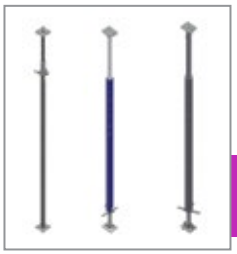
## Aluminum Telescopic and Drop Leg Fly Forms

The Hi-Lite Aluminum Fly Form System comes in 3 styles (Telescopic [Heavy and Lite] Duty and Drop Leg), allowing contractors to build floors faster and significantly reduce crane time. It's setting new standards for multiple story construction in the international marketplace.



## Aluminum Overhang Bridge Brackets

With innovative features such as an adjustment rod that can be easily and safely turned from above without going underneath, and with the same load capacity at half the weight of steel, the Hi-Lite Bridge Overhang Bracket System reduces installation time and increases worker safety.



## Aluminum Beams and Stringers

Significant labour and material savings are being achieved by contractors using Hi-Lite Aluminum Beams and Stringers. The reduced weight of each beam and ease of handling minimizes worker fatigue and results in higher worker efficiency and lower costs.

## Aluminum Post Shores

Hi-Lite Aluminum Post Shores are engineered for quick and easy handling and can be easily converted to shoring frames and back with demountable ledgers. Components can be fastened in all four directions anywhere along the length of the post.

## Steel Post Shores

Hi-Lite's "Premium" Steel Post Shores are made of high quality steel tubes and accessories which are galvanized to ensure many years of repeated use. Ideal of long term ownership and maximum stripping performance due to its labor saving "quick" release pin, making significant savings in the time to set, and strip the shore.

## Aluminum Beam Concrete Wall Forms

Contractors choose Hi-Lite Aluminum Wall Forms over steel and wood to reduce cost and increase productivity. Even the heaviest component can be lifted by a single worker for ease in dismantling and reassembling by hand or repositioning by crane.



## Aluminum Drop Head System

Lighter and stronger than comparable systems. Designed to support a 300mm (12") slab on a 1.8m x 2.4m (6'x8') Grid and for sloping slabs up to 12 degrees.

## Scaffolding & Aluminum Decks

A complete, easy to erect and economical scaffolding solution designed to meet and exceed ANSI an OSHA requirements.

## Hi-Lite Engineers Help Make Your Project a Success

Our products can be used wherever concrete is poured in place. If your project has special requirements, Hi-Lite can deliver custom solutions that take advantage of our knowledge, product line and custom manufacturing capabilities as we are a full service company.

### Layout CAD Drawings & Engineering Calculations

Hi-Lite provides Shoring, Scaffolding and Re-shoring layout CAD drawings with Engineer's approval and all necessary design, calculations and structural analysis using advanced computer programs.

### Equipment Testing and Test Reports

Our in-house testing facility with all modern equipment will serve you in testing all shoring and scaffolding equipment with test reports which satisfy CSA and SSFI standards.

### Jobsite Services

Hi-Lite provides on-jobsite services such as training, inspection, pre-pour inspection and Engineer's approval.

### Equipment Estimation

Hi-Lite also provides equipment estimation services for your bidding and tendering processes. Call Hi-Lite Engineers to talk about the special requirements of your next job. Every job has its own unique challenges – let Hi-Lite help you build a solution.

### Successful Cooperation with Contractors

Hi-Lite Systems believes strongly in working cooperatively with contractors to find innovative solutions that save time and money. Below is some feedback from a Hi-Lite customer.

> "Your engineering support was critical on this highly visible project and your timely response to our never ending requests for signed and sealed calculations was greatly appreciated. As you know, we were able to completely cycle 8000 sf of typical floor shoring in less than 2 hours and, on a project where the crane time was at a premium, this kind of speed impacted all other crane dependent tasks, allowing us to meet our contract schedule obligations."
>
> **Richard Bischoff**
> Vice President/ General Manager
> Weatherby Construction

# 12K Aluminum Shoring Frames

## The Hi-Lite 12K aluminum shoring frame system has a capacity of up to 53.4 Kn (12,000 lb) per leg using a safety factor of 2.5. The 1.8m x 1.2m (6' by 4') frame weighs 14.2 kg (31 lb).

Our Hi-Lite 12K Aluminum Shoring System comes with an easy-to-handle design to go with the light weight. That means one man might be able to do work that would require two or more if the material were steel or wood. Setting the frame with a crane or hand setting it are both available options.

### High durability

Aluminum frames resist damage. They are reusable and, despite being assembled and reassembled many times, they experience less on-site damage as workers find them easy to handle.

Hi-Lite 12K Shoring Frames are easily adjusted and attach safely and seamlessly to beams and stringers.

### Highly versatile

The Hi-Lite aluminum shoring frame will adapt to slopes or steps, whether they are at the top or bottom – or both at the same time. Swivel head screw jacks eliminate wedging. Almost any condition can be mastered using combinations of screw jacks, base plates and extension tubes. The adjustability of the system is the contractor's assurance that the project will proceed on schedule.

### Low maintenance and handling costs

Hi-Lite aluminum shoring frames are almost maintenance free. They do not rust and never require painting. Damage resistance increases their service life. Lower weight means less inventory and that leads to lower storage, transportation, and handling costs.

## Product Highlights

- No more than 1/3 the weight of the comparable load bearing steel frame.
- Capacity tested to safe working loads of up to 106.8 Kn (24,000 lb) per frame with a safety factor of 2.5:1.
- Designed to replace traditional 20K steel frame shoring and other modular systems.
- Inter-bracing feature helps maintain full load capacity in high towers.
- Snap-on Jet Locks make erection and dismantling fast, easy and safe.
- Ledgers in one direction only, allow for efficient spacing of frames using cost effective cross bracing.

For more details visit www.hi-lite-systems.com/12k

**Contact us for engineering data including maximum loads for strength to weight ratios, load capacities, quality control specifications and other technical data.**

# 12K Aluminum Shoring

## Cinéma Gaumont Disneyland Paris, France

## Palais de Justice de Pontoise, Val-d'Oise, France

### Project Statistics

Slab Thickness: 0.46m (18")

Slab Height: 10m-20m (32'-64')

### Project Description:

North American Products in prestigous European Projects

### Project Challenges:

Heavy slab high in the air.

### Project Results

With the 12K system, frames were easily erected and dismantled by hand. Frames were easily climbed for fine adjustment under slab.

# Riverhead Digester, Newfoundland, Canada

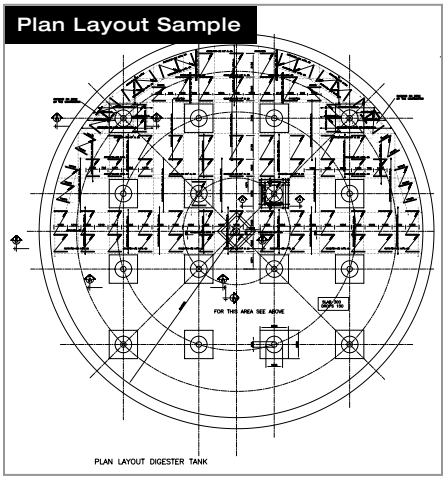
## Project Statistics

Slab Thickness: 0.3m-0.46m (12”-18”)

Slab Height: 12m (40’)

Slab Area: 730 sq m (7860 sq ft)

**Plan Layout Sample**




## Project Description:

12m (40') high ceiling height and 11m (36') high wall form.

## Project Challenges:

To support circular tank with sloping roof and sloping bottom and resist high lateral force while supporting 11m (36') high concrete wall.

## Project Results

Hi-Lite’s 12K lightweight shoring frame made it possible to support 12m (40') high ceiling height with swivel baseplate. 25K push pull brace, which was 9m (30') long, was utilized to resist tensile and compressive forces.

# 16/25K Aluminum Modular Shoring Frames

## The Aluminum Modular Shoring Frame, an innovation we designed over thirty years ago, is now an industry standard all over the world.

### Load Capacity Per Leg

16K - upto 71.2Kn (16,000lbs) SWL 2.5:1

25K - upto 111.2Kn (25,000lbs) SWL 2.5:1

### Strong and Durable

Like all our aluminum systems, these have high capacity, damage resistant and reusable. It requires minimal maintenance and has a lengthy service life.

We manufacture a frame with a load capacity of up to 222Kn (50,000 lbs) with a safety factor of 2.5:1, which is yet lighter than a steel shoring frame with a capacity of only 44.5Kn (10,000 lbs)! The benefits are dramatic, and even more so with our design advantages.

### Maximum Versatility

Hi-Lite's aluminum shoring frames are all modular.

- The legs easily convert to post shores when the inside panels are removed.
- The ledgers are compatible with two different design capacity systems – 16K and 25K
- Four vertical T-bolt slots run the full length of every leg so that braces can be attached at any height and in all four directions.
- 0.6m (2') spacing of the ledgers for safe accessibility.
- Combinations of accessories like screw jacks (swivel and fixed), base plates and extension tubes can be added to meet almost any conditions, such as sloped surfaces.

Frame Moving Dolly

### Economical

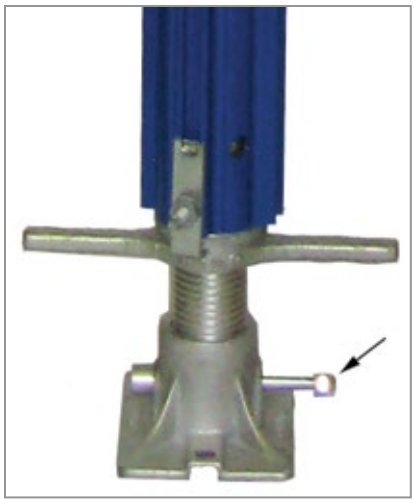
All of this means two things – lighter components and fewer components. Lower inventory means less transportation to and from the job-site. It means lower storage costs and handling charges. Ease of assembly reduces labour costs, over and over again. Ledgers in one direction only, allow for efficient spacing of frames using cost effective cross bracing.

### Safe and Efficient

- Aluminum shoring frames are light enough to be hand set if a crane is not desired.
- Under a slab, where use of a crane is especially awkward, hand dismantling is a real advantage.
- A single worker can lift even the heaviest component (31 kg or 68 lb).

## Product Highlights

- Single person handling and set applications in difficult areas.
- Snap-on Jet Locks make erection and dismantling fast, easy and safe.
- Versatile components are interchangeable and adjustable to suit diverse applications.
- Transportation and handling costs are reduced because of their light weight and modular features.
- The Quick Release Pin on the 25K Screw Jacks, make stripping quick and easy. A solid hit from a Carpenter's hammer will drop the Screw Jack 6mm (1/4") enabling the Screw Jack Nut to be release by hand, even under heavy loads.



Quick Release Pin

For more details visit www.hi-lite-systems.com/25k

www.hi-lite-systems.com/16k

**Contact us for engineering data including maximum loads for strength to weight ratios, load capacities, quality control specifications and other technical data.**

# 16K Aluminum Modular Shoring

## F.J. Horgan Water Treatment Facility, Toronto ON, Canada
## Lorne Park Water Treatment Facility, Mississauga ON, Canada

### Project Statistics:

Contact Area: 71,700 sq m (772,000 sq ft) of formwork

Concrete Volume: 26,000 cu m (920,000 cu ft)

Slab Thickness: 200mm to 700mm (8" to 27.5") with height variation from 5m to 8.5 (17' to 28')

### Project Description:

Expansion of a water treatment plant capacity from 570 to 1,030 ML/D

### Project Challenges:

Winning infrastructure projects relies on a contractor's ability to save time and money – while safely completing the job. The contractor chose Hi-Lite's 16K Aluminum Shoring Frame with the Quick Release Pin and 184mm (7-1/4") stringers to take higher loads and save on labour.

### Project Results:

The contractor saved significant labour hours by increasing the productivity cycle. The Quick Release Pin enabled the contractor to release the load while moving the equipment to the next location – saving time and money. Additional savings were gained by the increased spacing between frames enabled by the higher load capacity of Hi-Lite products compared to steel (less equipment to cover bigger area), which resulted in less handling labour.


Water

# 25K Aluminum Modular Shoring

## Richardson International Airport, Winnipeg MB, Canada

### Project Statistics:

Floor Area: 90,000 sq ft

Slab Thickness: 1.5m (4'-9") for 25K, 0.46m (1'-6") for 12K Floors

Slab Height: 5.8m (19') for 25K, 6.7m (22') for 12K

### Project Description:

Construction of a new airport terminal as part of the Winnipeg Airport Authority's major site redevelopment project.

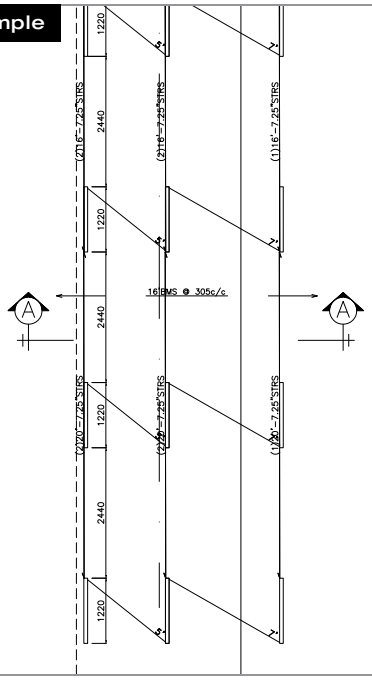
### The Solution:

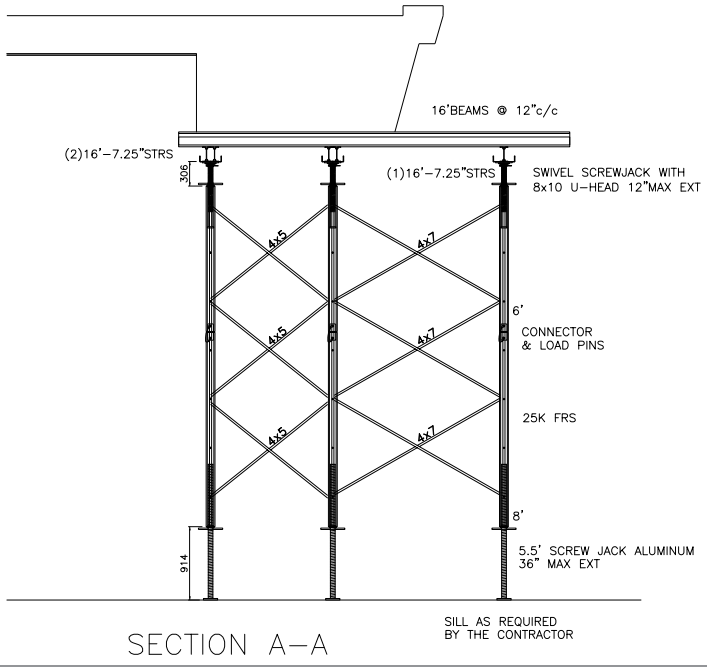
Hi-Lite 12K Shoring and 25K Modular Shoring Frames were chosen due to their easy handling, quick assembly, stripping, versatility, high resistance to damage, and durability in extreme temperatures.

### The Result:

Significant cost savings in labour and material requirements largely due to Hi-Lite Systems products.

**Plan Layout Sample**



# 25K Aluminum Modular Shoring

## Boston Big Dig, Boston MA, USA


### Project Statistics:

Project Size: I-90/Route 1A Interchange

Slab Thickness: 2m (6'-6") Deck Slab, 3.5m (11'-6") Bents

Height: 6m-9m (20'-30')

Concrete Poured: 18,600 sq m (200,000 sq ft)

### Project Description:

Extension of the Massachusetts Turnpike as part of the massive Boston Big Dig Project.

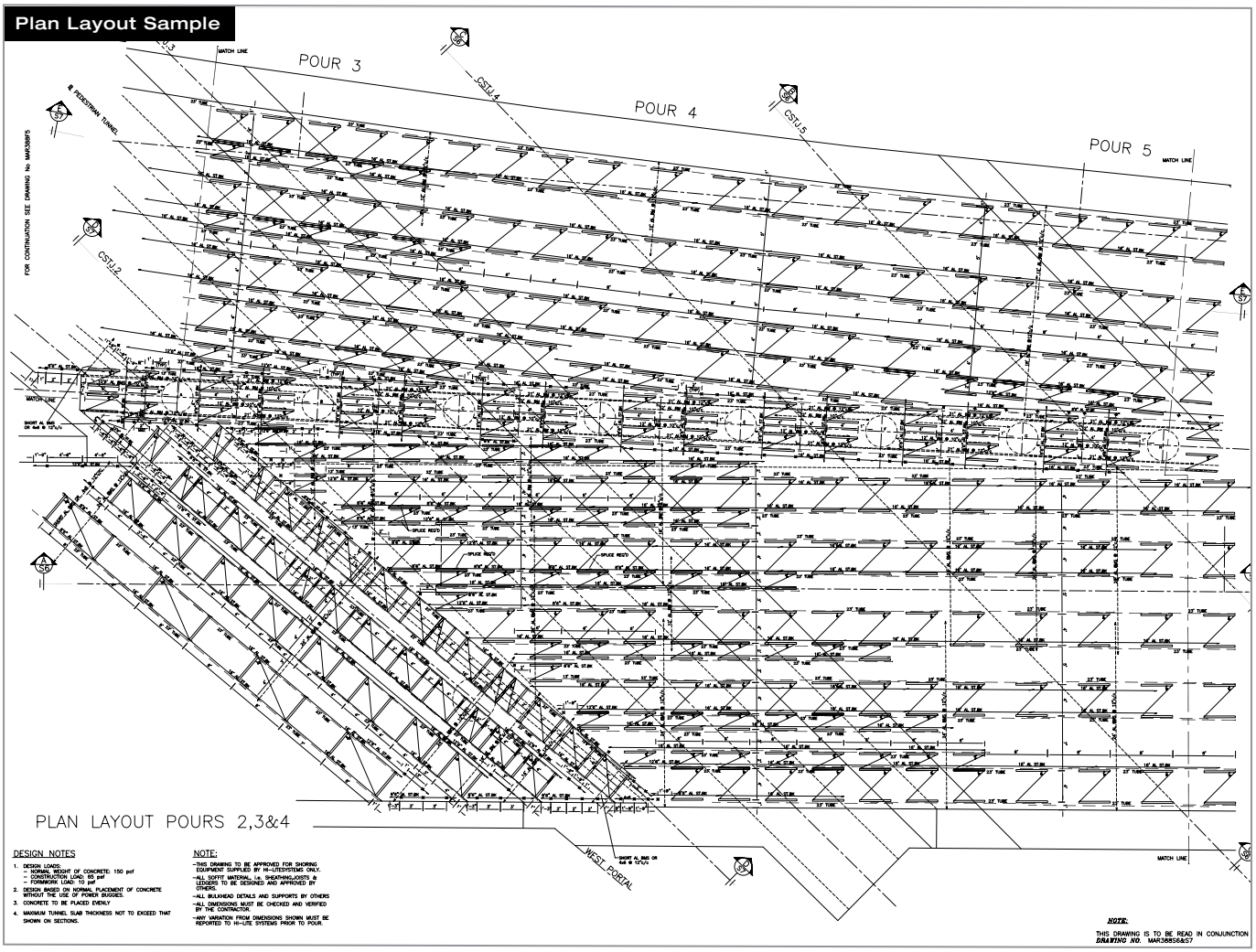
### Project Challenges:

The largest project ever built in North America, variable production schedule, multiple governments involved.

### Project Results

Over 70% of the poured slab was supported by Hi-Lite's 25K Aluminum Shoring System. Project was completed two months ahead of schedule largely due to Hi-Lite Systems products.

**Plan Layout Sample**



# Aluminum Telescopic Fly Forms

## The bigger, higher and more complex the project, the more Hi-Lite Aluminum Telescopic Fly Forms help you complete it on time and under budget.

The Fly Form is a modular component system assembled into rugged adjustable aluminum trusses, using standard aluminum beams and a range of compatible custom designed accessories. With an average weight of only eight pounds per square foot it permits a much larger surface area as compared to steel. Your workers' productivity soars.

### The more floors, the more time you save

Ease of movement and reusability means faster turnaround time. It's ideal for multiple stories, large bay shopping malls and commercial structures. The key is repeatativity, either horizontslly, vertically or on multiply building.

The telescopic component design means the system easily adjusts for differing floor heights. The bigger and more complex the project, the better our product is for you!

### Ideal for bridges, overpasses and tunnels

The telescopic feature of our fly form allows for quick height extensions. It also reduces the cost of filler strips and minimizes material wastage. You will also save time with wedges that replace time-consuming extension tubes with screw jacks.

### Reduce crane time

Fly and drop. The crane sets the frame down on blocks near the desired location. Our mechanical jack dollies then go to work, helping position the form precisely in just minutes. The crane is released far sooner so that more tables can be flown per hour than any other system. Less crane time means on quicker completion time at a lower cost.

### Reduce labour costs

The system uses standard modular components for ease of assembly. You are building the table only once and then reusing it thoughout the entire project.The specialized moving equipment reduced labour and speeds up the entire construction process. You increase productivity, profits and efficiency.

## Product Highlights

- Ideally suited for multiple stories, large bay structures, bridges, overpasses and tunnels.
- Significantly reduces crane time.
- Telescopic feature easily adjusts for differing floor heights.
- Trusses can be built from 0.9m to 6m (3' to 20') High and 4.5m to 21m (15' to 70') Long
- Lightweight and easy to handle–means increased productivity.
- No need for working platforms, chain blocking, C hooks, only needs standard crane chains to fly.

**Contact us for engineering data including maximum loads for strength to weight ratios, load capacities, quality control specifications and other technical data.**

# Aluminum Telescopic Fly Forms

## Harrah's Hotel and Casino, Atlantic City NJ, USA

### Project Statistics:

Floor Area: 1,350 sq m (14,500 sq ft)

Slab Thickness: 0.23m (9") Filigree Slab

Floor Height: 4.0m/4.6m/2.9m
(13'-0"/15'-2"/9'-8")

Number of Floors: 46

### Project Description:

Construction of a 46 story Hotel and Casino.

### Project Challenges:

Using one table form system that could accomodate both non-typical floors and typical floors – without changing struts.

### Project Results:

By using Hi-Lite's Aluminum Telescopic Fly Forms, adjustments were quick and easy. Project was completed eight weeks ahead of schedule with a construction cycle of three days per typical floor.

"As the Concrete Subcontractor for the new Harrah's Bay Tower II in Atlantic City, we were greatly satisfied with the use of the Hi-Life Truss Form System for the cast in place concrete decks.

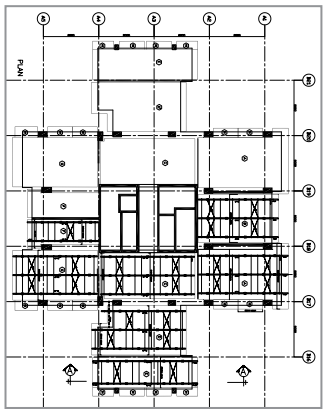
Harrah's Bay Tower II is a 46 story structure in which **WE ACHIEVED A THREE DAY CYCLE** on the typical floors. On the non-typical floors, the Hi-Lite Truss Form System was adjusted to accommodate the varying floor to floor heights. Directions and modifications to the Hi-Lite Truss Forming System were easily communicated to us by your technical support staff during the duration of the project.

The placement of the horizontal slabs was the controlling criteria for the whole project. Using the Hi-Lite Flying Form Trusses, we were able to finish this project **EIGHT WEEKS AHEAD OF SCHEDULE.**

Overall, the Hi-Lite Truss Forming System was a great benefit and allowed us to improve on the overall concrete schedule, which was welcomed by the General Contractor as well as the Owner."

**Carl Sparano**
Project Manager
Madison Concrete Construction

# Pearl of the Emirates, Al Reem Island Abu Dhabi, UAE



## Project Description

Construction of twin
50 story towers.

## Project Challenges

Make efficient use of the 3 small tower cranes servicing both towers and minimize time-consuming conventional shoring.

## Project Statistics:

Slab Thickness: 280mm (11”)
Height: 3.4m (11’-2”)

## Project Results

Utilizing the lightweight aluminum telescopic fly form, table widths of up to 8m were designed and hinged panels were used extensively between the columns so that over 98% of the slab was supported by the system formwork. The contractor saved time and reduced costs. After training from Hi-Lite the contractor was able to acheived a 4 day cycle time.

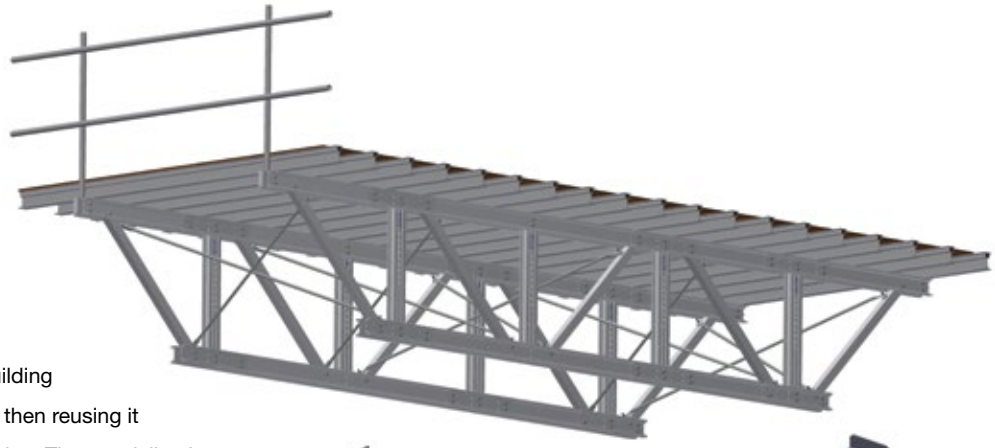
# Aluminum Drop Leg Fly Forms

## When Perimeter Beams, Upturn Beams or Internal Beams, restrict easy flying. Hi-Lite Drop Leg Fly Form makes these difficult projects flyable.

The Aluminum Drop Leg Fly Form is a modular component system assembled into rugged adjustable aluminum trusses, using standard aluminum beams and a range of compatible custom designed accessories. It is designed to allow flying where upturn and perimeter beams restrict flying. The Drop legs can be retracted into the truss, thus reducing the height of the truss so that it can be flown over and under these beams. The system uses the same effiecent moving equipment as the Telescopic Fly Form Systems.

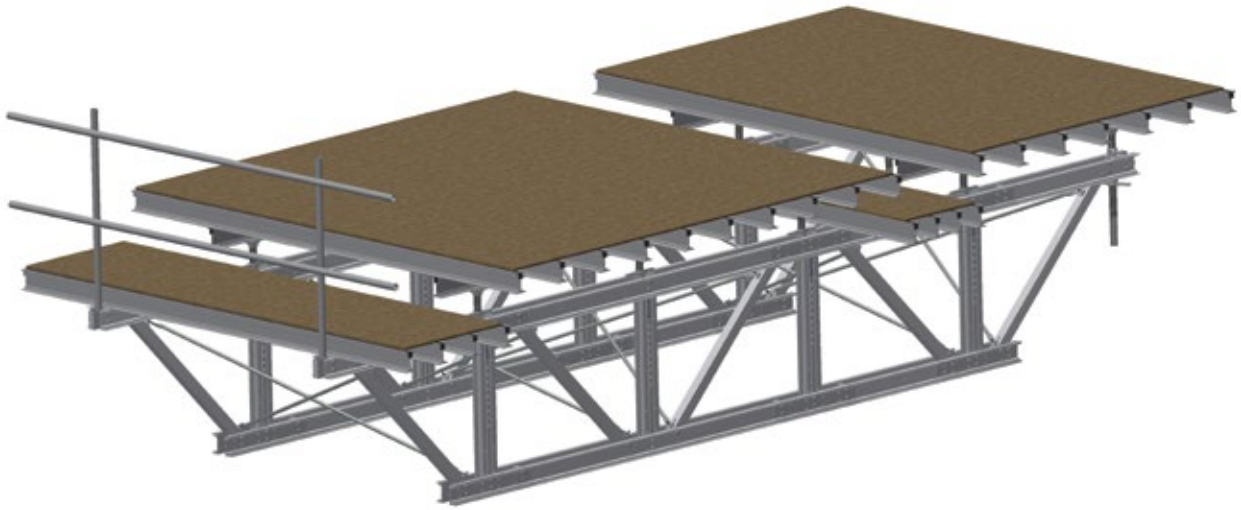
### Reduce crane time

Fly and drop. The crane sets the frame down on blocks near the desired location. Our mechanical jack dollies then go to work, helping position the form precisely in just minutes. The crane is released far sooner so that more tables can be flown per hour than any other system. Less crane time means on quicker completion time at a lower cost.

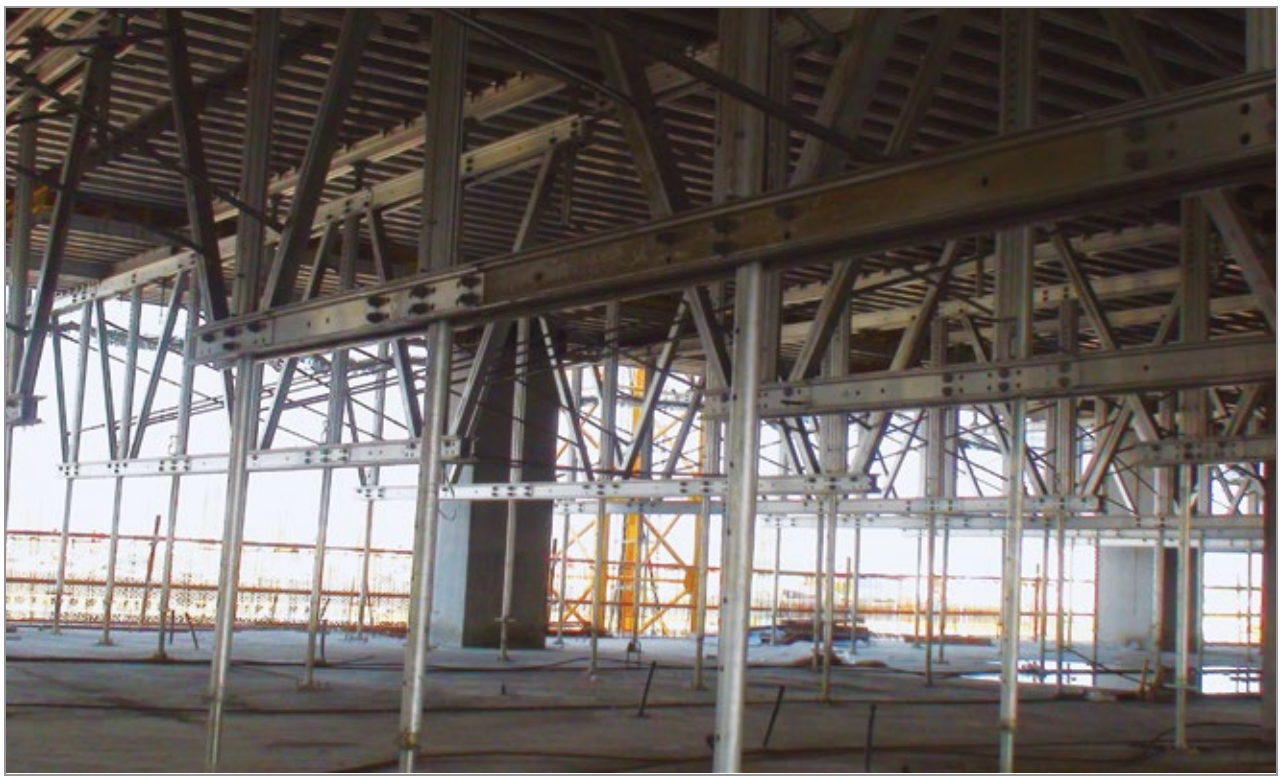


### Reduce labour costs

The system uses standard modular components for ease of assembly. You are building the table only once and then reusing it thoughout the entire project.The specialized moving equipment reduced labour and speeds up the entire construction process. You increase productivity, profits and efficiency.



- Significantly reduce crane time.
- Drop Legs make it possible to fly over and under internal beams.
- Modular components reduce skilled labor cost.
- Light-weight and easy to handle results in increased productivity.
- Moving Equipment makes Stripping, Moving and Positioning quick and easy.



# Aluminum Drop Leg Fly Forms

## Cognazant IT Park, Larsen & Toubro, Chennai India

### Project Statistics:

Slab Thickness: 225 mm

Floor Height: 4050 mm

Floor Area = 3050 sq m

# Of Storeys: 8 for Each wing (Total 3 wings)

### Project Description

Cognizant IT – Park built by Larsen & Toubro

### Project Challenges

- To get the advantage of Large area tables – Hi-Lite Drop Leg Aluminum System was selected – Large Area tables of size 50' x 22' ( 15.24m x 6.7 m) were made and fly as one unit from one floor to another and one building to another building – which is not possible by conventional Steel Prop and Wooden Beam concept
- Reduce the quantity of Re-Shore
- To achieve 5 days cycle time

### Project Results

- Utilization of crane time is substantially reduced due to it's light weight – Increased in productivity
- Project is progressing economically very well with : Savings in Re-Shoring Post, Savings in man hours/labor costs, savings in crane time, Savings in project time & schedule

# Singapore Drop Leg Project

## Project Statistics:

Slab Thickness: 200 mm

Floor Height: 3150 mm

Floor Area = 980 sq m

# Of Storeys: 40

## Project Description

40 Storey Luxury Apartment in Downtown Singapore

## Project Challenges

- Due to upturn Precast beams it was a challenge to use bigger panels
- By advantage of using Hi-Lite Drop Leg Aluminum System, panels were made shorter and flown to upper floors quickly

## Project Results

- Project was completed well before the estimated date
- Quick cycle time was achieved
- Less Reshores, Less Man hours

# Aluminum Bridge Overhang Brackets

## With the same load capacity at half the weight of steel, the Hi-Lite Bridge Overhang Bracket System reduces installation time – every time.

### Heavy Duty 53Kn (12,000 lbs)
### Light Duty 26Kn (6,000 lbs)

### Strong and Lightweight

Hi-Lite Aluminum Heavy Duty Bridge Brackets weigh only 34kg (75 lbs) (1/3 the weight of conventional steel brackets). Their strength allows them to be spaced twice as far apart – up to 3m (10 ft) – requiring fewer brackets to complete the job.

### Safe

An adjustment rod controls the diagonal strut from above. The bridge bracket can be leveled quickly without going underneath. The safety rail, either lumber or tube-and-clamp, attaches to the Guard Rail Post Holder, which can be adjusted to accommodate sloping decks.

### Efficient

Assembly is fast and easy. The adjustment rod is removed easily and the diagonal strut folds against the rest of the bracket. That way the entire bracket takes up very little space during shipping. The aluminum material is also far less likely to damage the bridge girders.

### Versatile

The components of the bracket are modular, meaning that the parts are all standard but are highly adjustable. Different overhangs and different bridge shapes therefore present no difficulty and that saves labour and materials.

The upper top chord and the diagonal strut are manufactured with a T-bolt slot all along their length. Because of this the rest of the parts can be attached and stripped easily or the bracket can be flown into position by crane.

A Top Chord Extension can be used to lengthen the upper portion of the bracket.

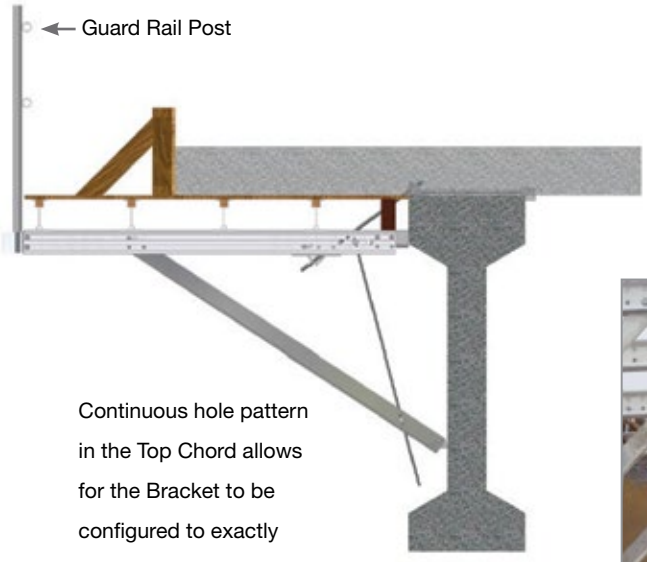
### Economical

The Hi-Lite bridge overhang bracket installs and strips quickly, adjusts to most conditions and has a superior load-bearing capacity. The contractor saves on both materials and labour, and the project is not slowed down by unusual conditions.  Better. Faster. Cheaper.

## Product Highlights

- Can be spaced twice as far apart compared to equivalent steel brackets.
- Requires significantly less labour for installation and stripping.
- The Adjustment Rod can be easily and safely turned from above without going underneath.
- The aluminum resting bars are far less likely to damage the bridge girders.
- A Top Chord Extension can be used to lengthen the upper portion of the bracket.
- Workers no longer need to use scissor lifts or other more injury prone methods to adjust the bridge brackets. HI-LITE's patented Top-Down leveling feature allows them to adjust brackets from the top of the deck – safely and quickly.

The Resting Bars are made of aluminum so that there is a major reduction in the chance of scratching and/or damaging the steel or concrete bridge girders.




Continuous hole pattern in the Top Chord allows for the Bracket to be configured to exactly meet the Bridge Overhang design. The Tie-Back Brackets can be positioned anywhere along the Top Chord to achieve the most desirable angle.

For more details visit www.hi-lite-systems.com/bridge

**Contact us for additional details including engineering data, maximum loads for strength to weight ratios, load capacities, quality control specifications and other technical data.**

# Aluminum Bridge Overhang Brackets

## Athabasca River Bridge, Ft. McMurray AB, Canada

### Project Statistics

Size Of Bridge Deck: 472m (1,550') x 33m (108')

Width of Overhang: 1.524m (5')

Slab Thickness: 300mm (12")

Interior span between Girders (To maintain same spacing for inside and outside the girders)

2700 mm – 2 NOS. – 152mm (6") Strongbacks

3657 mm – 2 NOS. – 184mm (7-1/4") strongbacks

### Project Description

The Athabasca River Bridge has the largest bridge deck in Alberta.

### Project Challenges

Bridge deck measures 472m (1550') long by 33m (108') – approx. the size of five football fields. Construction was to occur under difficult Alberta winter conditions above water.

The Bridge Contractor was looking for a deck formwork system that can install easily and safely, and save time and money.

## Project Results

- Half the number of brackets were required vs. steel.
- Light and easy to work with – required less labour.
- Easily installed the formwork directly on the launching deck, speeding up the process.
- With strongbacks, equal spacing was maintained inside and outside steel girders – saving material and labour.
- Overhang brackets were installed by one person lifting it up on the deck and the second installing it into place.
- Overhang brackets were easily adjustable from the top, enhancing worker safety under difficult conditions.
- A 50m (164') span of brackets installed in just 2 hours!

> "We've had great success installing these [Hi-Lite] overhang bridge brackets as well as the interior aluminum strongbacks...a single man was able to lift them into place..."
>
> "On the inside we have 6" deep strongbacks. We were able to install them much quicker than we would have achieved with wood."
>
> **Ken Tanner**
> Flatiron Construction Corp.

# Aluminum Bridge Overhang Brackets

## Boulevard des Allumettières Bridge, Gatineau QC, Canada

### Project Statistics

Slab Thickness: 300mm (12”)

Pour Width: 1.6m (5’2”)

Screed load: 8.4Kn (1894lbs)/Wheel

### Project Description

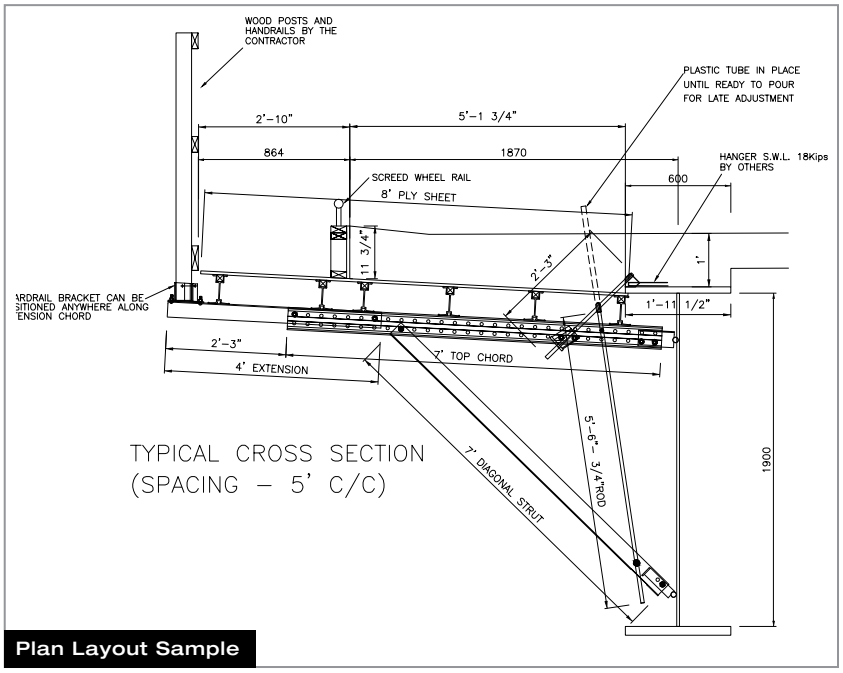
Bridge Repair and improvements.

### Project Challenges

To find time and cost saving methods for bridge work that allowed quick and easy assembly, adjustment and dismantling of overhang brackets.

### Project Results

Hi-Lite Aluminum Bridge Brackets were installed quickly and efficiently, saving both time and money.




Plan Layout Sample

# I-95 Overpass, New Haven CT, USA



Gang brackets with cross-braces and fly them together 5-6 at a time.

## PROJECT DESCRIPTION:

The completion of several bridges and overpasses on the I-95.

## PROJECT CHALLENGES:

The contractor required a safe and economical bridge bracket solution to win a 2 year project involving the construction of several bridges and overpasses. Hi-Lite's 6K Aluminum Bridge Bracket Solution was chosen.

## PROJECT RESULTS:

Compared to steel brackets, the Hi-Lite Bridge Bracket Solution significantly increased the contractor's productivity cycle and reduced labour costs. Using cross-braces, the contractor could connect 5 brackets in gang form and fly them to the bridge deck were they could be quickly installed. Their light weight also made them easy to handle. For enhanced safety, the brackets are designed with a top down adjustment feature, reducing unnecessary risk of adjustment from beneath the deck.

Finally, the durable nature of Hi-Lite's Aluminum Bridge Brackets made them ideal for use on multiple bridges over an extended period of time. Compared to steel which corrodes and can be easily damaged, Hi-Lite brackets can withstand the harshest conditions.

# Aluminum Beam Concrete Wall Form System

## Construction industry leaders choose our aluminum beam concrete wall form system over steel and wood – it reduces cost and increases productivity.

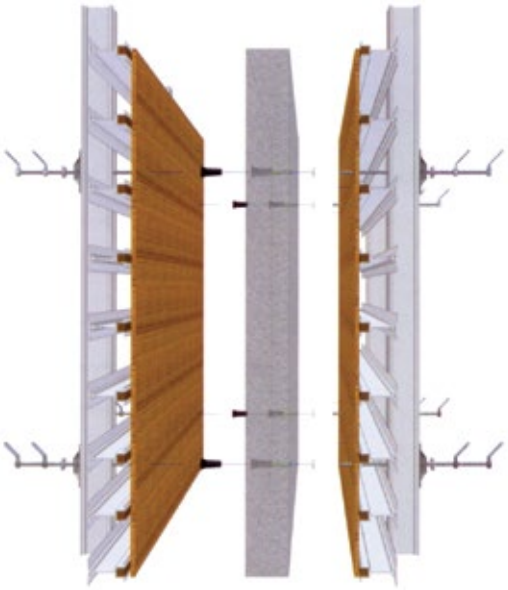
### Easy to handle and reusable

The light weight means that even the heaviest component can be lifted by a single worker for ease in dismantling and reassembling by hand or repositioning by crane. All three systems are made of aluminum parts which are damage resistant and can easily be stripped by the workers.

### Variable conditions

When wallform or column size changes during construction Hi-Lite has the answer. Our strongbacks – in any system – can be spliced together using our unique telescopic channels to create joists. They can also be used as joists in the formation of concrete slabs. Beams can be used horizontally or vertically depending upon the specific requirement of the project.

Hi-Lite aluminum beam concrete wall forming systems meet and exceed the demands of contractors the world over building projects with walls and columns of any height and length. One of our systems is sure to meet your needs.



### Modular design outperforms

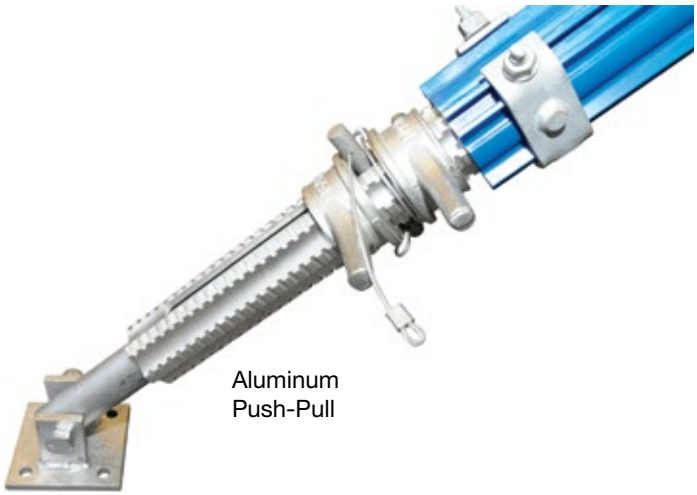
We minimize the number of parts by providing three different types of Aluminum Strongback Beam Systems.

Aluminum strongbacks are the two-piece back-to-back channels that support the tie rods that hold the two wallforms together. Each tie rod is bolted to the strongback assembly, goes all the way through the concrete and is bolted to the strongback on the other side. When the concrete hardens, the tie rod is removed, along with the rest of the formwork, and the resulting hole is plastered or plugged.

There are three systems: lightweight, mid-range, and heavy duty gang.

## Product Highlights

- Uses the minimum number of components possible.
- Reusable components.
- Assembles and strips easily.
- Can quickly adapt to changes in size during the construction cycle.
- Big size panels with mid capacity cranes
- Better quality of concrete surface requiring less labour to finish.



Aluminum
Push-Pull

## Available in three systems

1. The light weight system – can be hand set. It uses light duty tie rods bolted to small size strongback channels for vertical support. The horizontal beams/stringers are also in the small size range.

2. The mid-range system – must be gang set. It uses a smaller number of medium strength tie rods and medium size strongbacks. This system uses vertical joists and horizontal beams or stringers which are all medium size.

3. The heavy duty gang system – is also gang set and uses the least number of tie rods spaced the furthest apart. This system uses tie rods, strongbacks vertical joists and horizontal beams/stringers which are all heavy-duty.

For more details visit www.hi-lite-systems.com/wallform

**Contact us for engineering data including maximum loads for strength to weight ratios, load capacities, quality control specifications and other technical data.**

# Various Aluminum Wall Form Projects

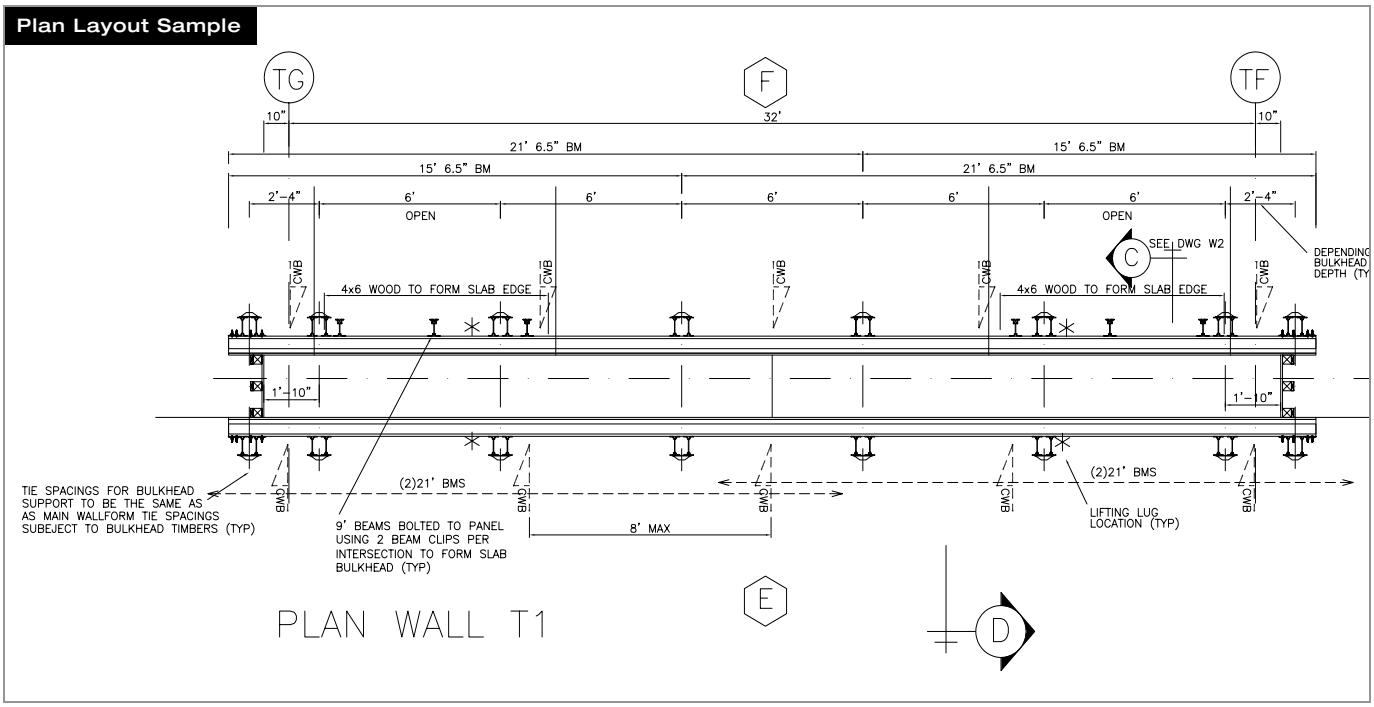
**Post shores transformed into 30' long Aluminum Push and Pull Braces**

## With the Hi-Lite Aluminum Wall Form System, you get:

- A system that uses the minimum number of components possible.
- Reusable components.
- Formwork that is easy to assemble and strip.
- The flexibility to adapt to changes in size during the construction cycle.
- Post shores that can be transformed into push-pull braces.

The Number of parts is minimized by providing three different types of Aluminum Strongback Beam Systems. These two-piece back-to-back channels support the tie rods that hold the two wall forms together. Each tie rod is bolted to the strongback assembly, goes all the way through the concrete, and is bolted to the strongback on the other side. When the concrete hardens, the tie rod is removed along with the rest of the formwork and the resulting hole is plastered or plugged. The tie rod can then be reused, saving on costs.

**Plan Layout Sample**




# Aluminum Post Shores

## Hi-Lite Aluminum Post Shores are engineered for quick and easy handling, require minimal maintenance, and can be easily converted to shoring frames.

### Load Capacity

Load capacity depends on the length of the post shore and whether it is braced or un-braced. Please consult our engineering department for details.

### Efficient

The light weight means one man can handle, assemble and disassemble and that provides a more streamlined operation and less downtime.

### Versatile

Post shores convert to frames and back with demountable ledgers. That reduces your inventory even more.

Each post is equipped on all four sides with a full-length vertical T-bolt slot that accepts bolts with three different heads. This feature alone will save you frustration, along with time and money.

### Any Configuration

All your components can now be fastened in all four directions anywhere along the length of the post using any standard ½" bolt. Almost any configuration – including sloped surfaces – can be accommodated so your staff can get on with their work no matter what surprise comes up.

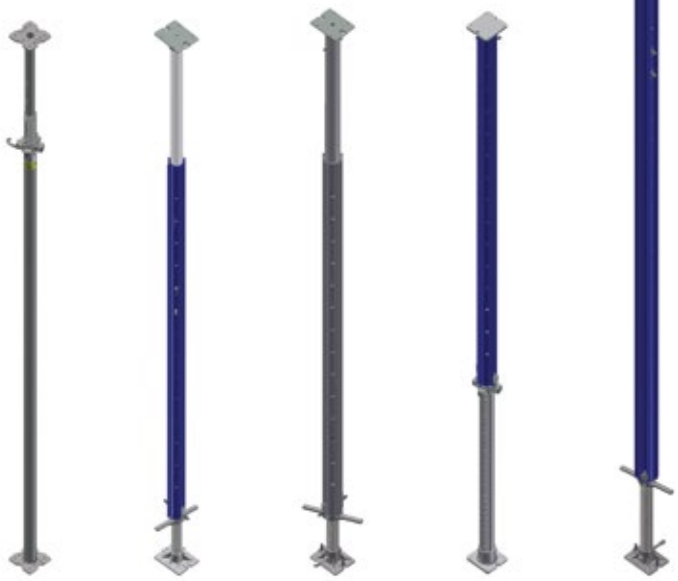
For more details visit
www.hi-lite-systems.com/postshore

## Economical

Hi-Lite aluminum post shores handle quickly and easily. They are reusable, and need minimal maintenance. It all adds up to reduced materials cost, lower labour expense and a job done on schedule. The customer is happy and so are you.

## Product Highlights

- Engineered for quick and easy handling.
- 50% of the weight of comparable steel capacity shores.
- Minimal maintenance required.
- 4 Vertical T-bolt slots run the full length of the post shore.
- Post Shores convert to frames by adding demountable ledgers.



# Steel Post Shores

**Hi-Lite's "Premium" Steel Post Shores are made of high quality steel tubes and accessories which are galvanized to ensure many years of repeated use. Ideal of long term ownership and maximum stripping performance due to its labor saving "quick" release pin, making significant savings in the time to set, and strip the shore.**

### 150mm x 150mm Base / Top Plate (6in x 6in).

5mm (1/4in) steel plate including connection / alignment holes for adapting to u-heads, beams and other common post-shore applications.

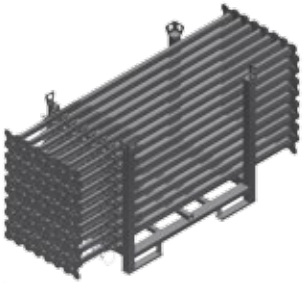
### Heavy Duty Cast Hammer Nut

Combined with stripping Handle, the Nut has 3 Additional Ears for use with hammers to ease in stripping the shore while under load.

Pins are of high grade steel, and come with attached safety cable to prevent loss of pins during transportation or on site handling.

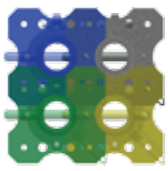
### Full Length Tube / Thread

Outer Tube is full length and continuous. Thread is cut into the outer tube providing a higher capacity, and equally important, far longer life expectancy when compared to products that are welded onto thinner walled tubes to reduce weight and cost.



### Notched Stacking

Greater concentration of Post Shores can be placed into Shipping Cradles due to the notch on the base plates that allow for stable and closer packing of shores.

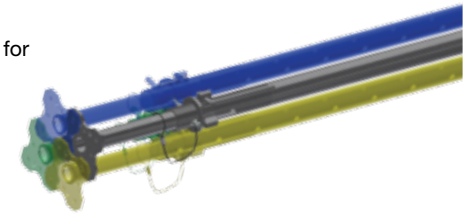


### Shipping Cradle

Easy transportation for shipping Post Shores by track, or lifting to the working deck for installation and stripping.

Racks are designed to hold 63 Post Shores.

Racks can be safely stacked 2 or 3 high providing surface is level, and hard packed.



| HI-LITE 16K ALUMINUM POST SHORE | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | MIN | SWL 2.5:1 | MAX | SWL 2.5:1 | RANGE | WEIGHT |
| 16PS4&3 | ft | 70” | 14,050 lb | 99” | 12,252 lb | 29” | 35.2 lb |
| | m | 1.78 m | 62.5 kN | 2.52 m | 54.5 kN | 0.74 m | 16.0 kg |
| 16PS5&3 | ft | 70” | 14,388 lb | 111” | 9,569 lb | 41” | 37.6 lb |
| | m | 1.78 m | 64 kN | 2.82 m | 42.57 kN | 1.04 m | 17.1 kg |
| 16PS6&4 | ft | 82” | 14,050 lb | 135” | 8,893 lb | 53” | 41.8 lb |
| | m | 2.08 m | 62.5 kN | 3.43 m | 39.56 kN | 1.35 m | 19.0 kg |
| 16PS8&6 | ft | 106” | 11,240 lb | 183” | 4,674 lb | 77” | 50.2 lb |
| | m | 2.69 m | 50 kN | 4.65 m | 20.79 kN | 1.96 m | 22.8 kg |

| HI-LITE 25K ALUMINUM POST SHORE25.43 | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | MIN | SWL 2.5:1 | MAX | SWL 2.5:1 | RANGE | WEIGHT |
| 25PS4&3 | ft | 72” | 25,500 lb | 102” | 25,500 lb | 30” | 48.1 lb |
| | m | 1.83 m | 113.4 kN | 2.59 m | 113.4 kN | 0.76 m | 21.9 kg |
| 25PS5&3 | ft | 72” | 25,808 lb | 113” | 19,337 lb | 41” | 51.3 lb |
| | m | 1.83 m | 114.8 kN | 2.87 m | 86.02 kN | 1.04 m | 23.3 kg |
| 25PS6&4 | ft | 84” | 20,053 lb | 137” | 17,761 lb | 53” | 56.9 lb |
| | m | 2.13 m | 89.2 kN | 3.45 m | 79 kN | 1.32 m | 25.9 kg |
| 25PS8&6 | ft | 108” | 17,310 lb | 185” | 8,967 lb | 77” | 68.2 lb |
| | m | 2.74 m | 77 kN | 4.70 m | 39.89 kN | 1.96 m | 31.0 kg |

Custom sizes of longer 25K aluminum Post Shores available. Please contact us for additional details including sizes, engineering data, maximum loads for strength to weight ratios, load capacities, quality control specifications and other technical data.

| HI-LITE GALVANIZED STEEL POST SHORE | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | MIN | SWL 3:1 | MAX | SWL 3:1 | RANGE | WEIGHT |
| HPS-0 | ft | 4 | 13,751 lbs | 6 | 11,546 | 2 | 29 lbs |
| | m | 1.2 | 61.17 | 1.8 | 51.36 | 0.6 | 13.15 kgs |
| HPS-1 | ft | 6 | 11,546 lbs | 10 | 7,209 | 4 | 46 lbs |
| | m | 1.8 | 51.36 | 3.0 | 32.07 | 1.2 | 20.85 kgs |
| HPS-2 | ft | 7 | 12,043 lbs | 11 | 6,735 | 4 | 48 lbs |
| | m | 2.1 | 53.57 | 3.3 | 29.96 | 1.2 | 21.77 kgs |
| HPS-3 | ft | 9 | 7,317 lbs | 13 | 3,141 | 4 | 54 lbs |
| | m | 2.7 | 32.55 | 3.9 | 13.97 | 1.2 | 24.49 kgs |
| HPS-4 | ft | 11 | 8,419 lbs | 15 | 3,165 | 4 | 64 lbs |
| | m | 3.3 | 37.45 | 4.5 | 14.08 | 1.2 | 29.04 kgs |

# Aluminum Beams

## By using Hi-Lite Aluminum Beams and Stringers in all your projects, you can reduce both labour and materials costs – in significant amounts.

Hi-Lite Aluminum Beams have many advantages over competing beams. Our designs save time on the job and reduce maintenance. Please refer to our load charts for capacities. Generally speaking, Hi-Lite beams carry more load and usually cost less.

### Stronger

Hi-Lite Beams are made from high grade structural alloy 6351-T6, which has greater strength than 6061-T6 alloy. Reinforced side flanges resist bending and retain beam clips. Employees spend less time repairing and more time working.

### Safer

Wider flanges resist overturning. Fewer accidents and injuries mean less employee downtime and lower insurance costs.

HI-LITE T-bolt
c/w Beam Clip

### More Efficient

Bevels on T-bolt slots provide for fast alignment of T-bolt components. Rapid assembly moves the project ahead, overcomes unforeseen delays quickly.

### More Versatile

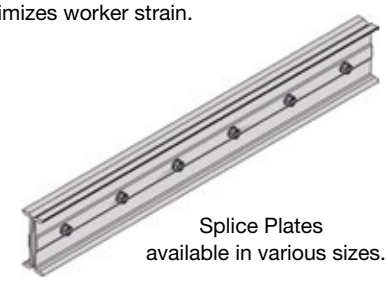
Wood and plastic insert allows for nailing or screwing down plywood decking. Hollow beams are designed to allow 2x4 and 2x6 wood members to be inserted in order to extend the length of the beam. Less subject to damage. Reusable. It all adds up to less inventory, less storage, lower transportation cost, and lower carrying costs.

### More Economical

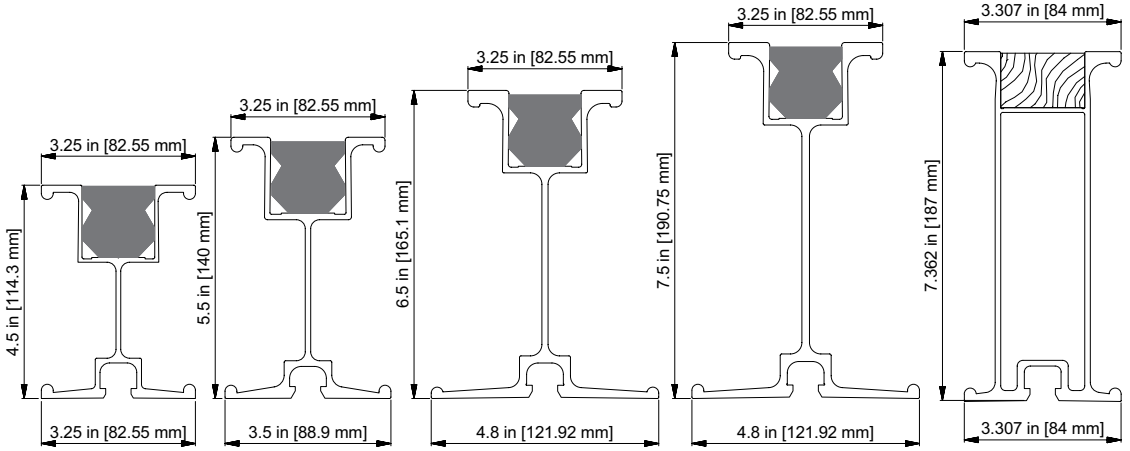
12 mm (½") T-bolt slots provide for easy fastening of beams and stringers to their supports or to each other. Your workers will be more productive and the lower labour costs will be reflected in your bottom line.

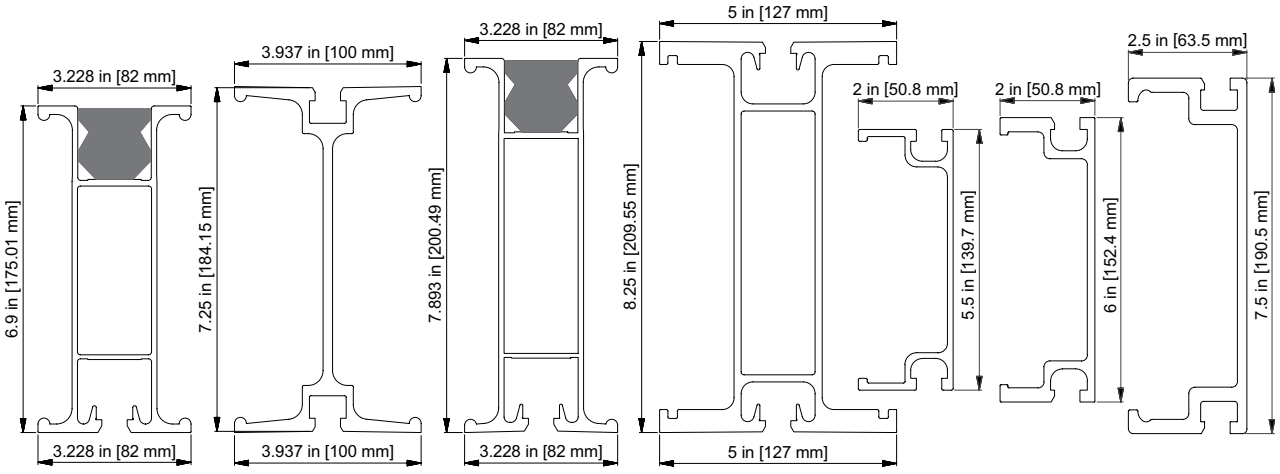
## Product Highlights

- Eliminate up to 1/3 of the horizontal members and as much as 1/2 of the vertical supports, using aluminum beams instead of wooden ones.
- Reduced weight of each beam combined with fewer structural members minimizes worker strain. Lower worker fatigue means higher worker efficiency and lower costs.
- All beams are available in standard lengths of 8', 9', 10', 10'6", 12', 14', 16', 18', 20', and 21' with wood or plastic inserts.
- All beams can be specially ordered in almost any length, up to 12 meters (39 feet) to suit the inside dimensions of an ocean-going container, or even longer if this is not a restriction.



Splice Plates
available in various sizes.



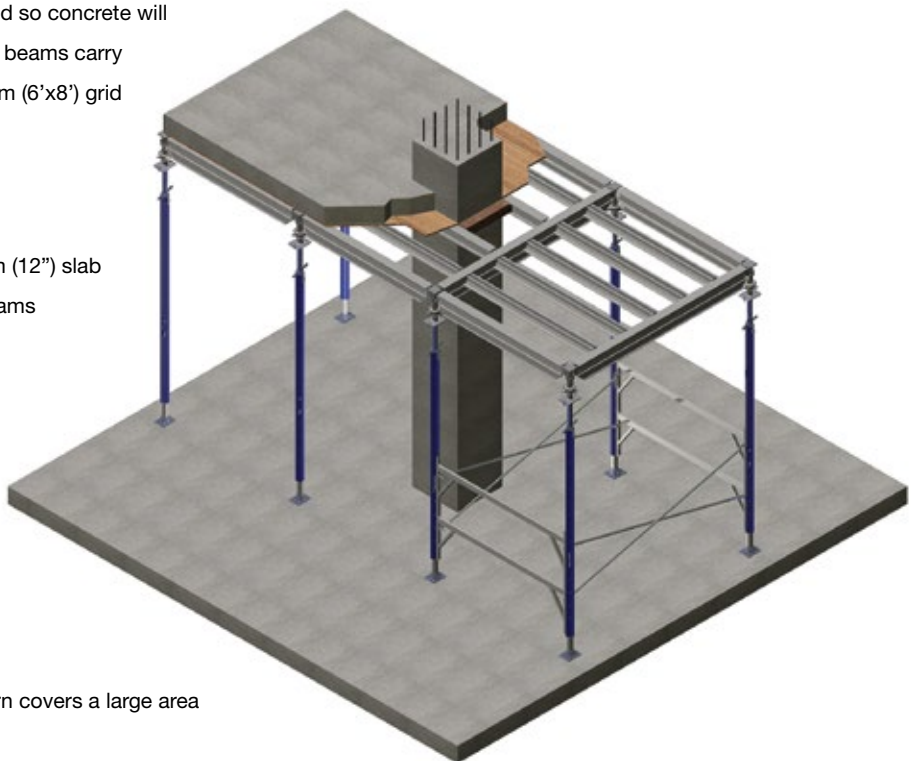

**Contact us for engineering data including maximum loads for strength to weight ratios, load capacities, quality control specifications and other technical data.**

# Aluminum Drop Head System

## The Hi-Lite aluminum drop head shoring system has a capacity of up to 44.5Kn (10,000 lb) per leg using a safety factor of 2.5.

### Aluminum Drop Head – A Big Weight Saver

Aluminum main beams are designed so concrete will not drip into holding grooves. Main beams carry 300mm (12") slabs on a 1.8m x 2.4m (6'x8') grid pattern.



### Drop Head Features

- Main beams support a 300mm (12") slab using 108mm (4-1/4") joist beams on a 1.8m x 2.4m (6'x8') grid.
- Designed for sloping slab up to 12° slope.
- Suitable for flat slabs on residential/commercial buildings and parking garage sloping slabs.
- 1.8m x 2.4m (6'x8') grid pattern covers a large area and reduces labour costs.

### Versatile and Cost-Effective

Deck panels are level with main beams and 1.828m (6') long and. 462m (16") or .602m (24")" wide panels carry 12" slabs. They are easy to erect and all parts are replaceable. This versatility results in less weight and less cost.

The drop head panel accepts ½" ply wood and has unique stripping features. The Hi-Lite drop head system also accomodates overhanging slabs easily.

Fast, safe, and simple. If you like Hi-Lite products, you'll love the drop head system.

## Product Highlights

- Lighter and stronger than comparable systems.
- Designed to accept infilling with standard 4 x 4 complete with 3 1/2" x 3 1/4" plywood strips.
- Unique features make erection and dismantling fast, easy and safe.
- Adapts to any post shore including Hi-Lite's 25K system.

For more details visit
www.hi-lite-systems.com/drophead

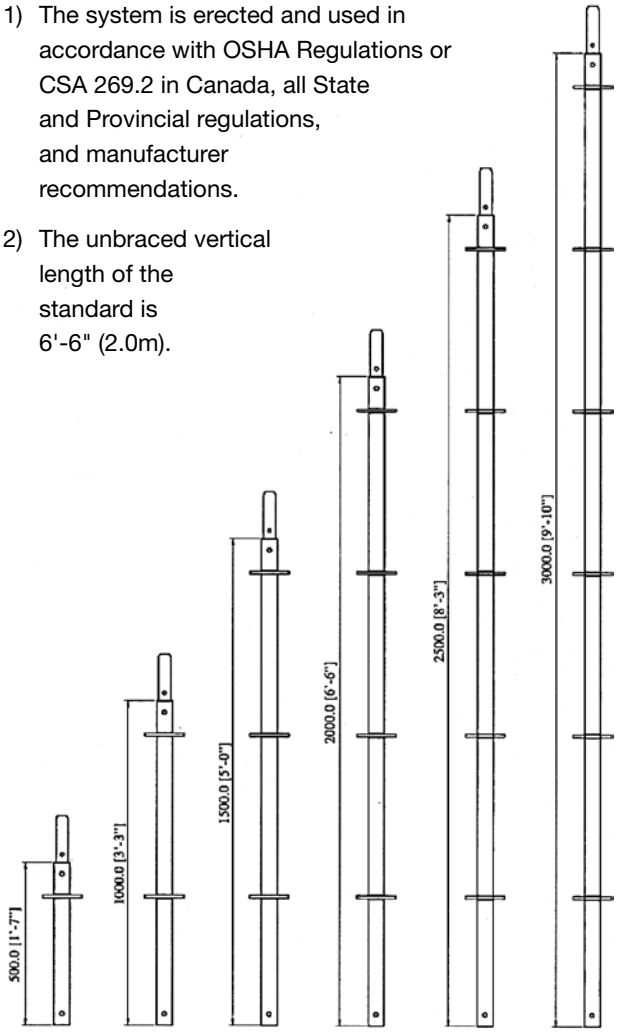
Contact us for engineering data including maximum loads for strength to weight ratios, load capacities, quality control specifications and other technical data.

# System Scaffolding

## Hi-Lite System Scaffolding provides a complete, easy to erect, scaffolding solution. It is manufactured to ISO 9001-2000 Standards and has been designed to meet and exceed ANSI an OSHA requirements.

**Note:** The allowable leg load for the standard is 5000 lbs. (22.64Kn) per standard with a Safety Factor of 4:1, provided the following criteria are followed:

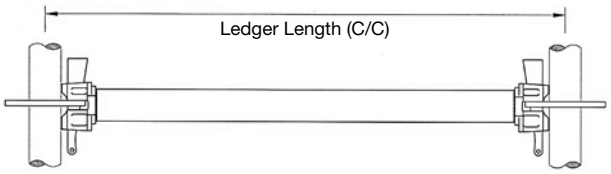
1) The system is erected and used in accordance with OSHA Regulations or CSA 269.2 in Canada, all State and Provincial regulations, and manufacturer recommendations.
2) The unbraced vertical length of the standard is 6'-6" (2.0m).



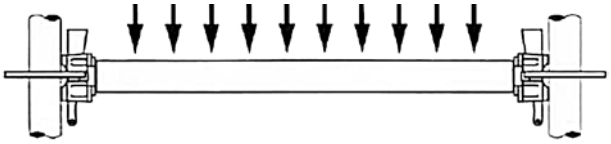

### Standards

| Length | 1'-7" (0.5m) | 3'-3" (1.0m) | 5'-0" (1.5m) | 6'-6" (2.0m) | 8'-3" (2.5m) | 9'-10" (3.0m) |
|---|---|---|---|---|---|---|
| Weight in lbs.(kgs) | 6.5 (3.1) | 11.5 (5.2) | 17.0 (7.7) | 22.0 (10.0) | 26.0 (11.8) | 32.0 (14.5) |

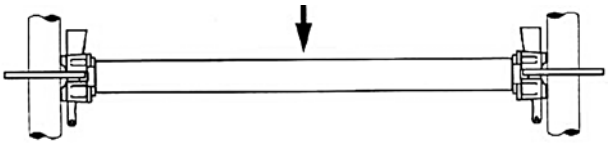
**Ledgers:** 2'-0" to 10'-0" (0.61m to 3.05m)



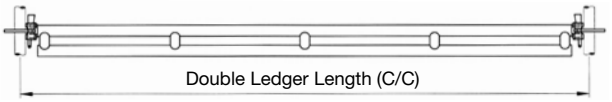

**Uniformly Distributed Load (UDL)**



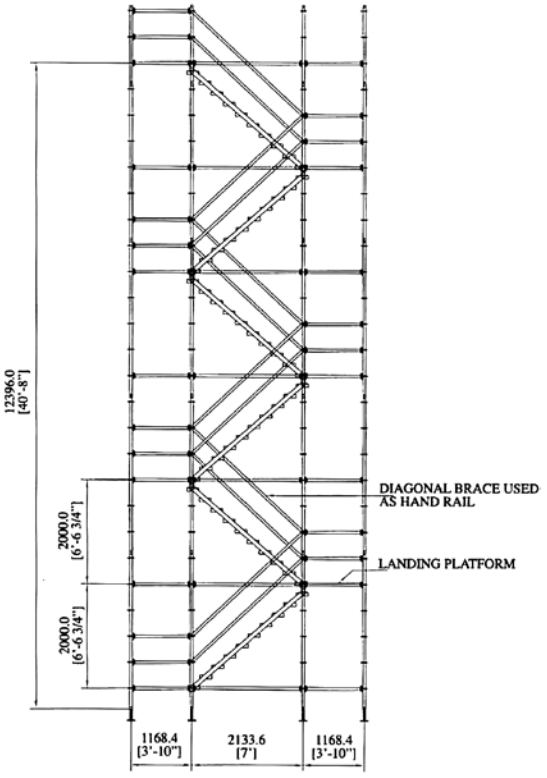
**Point Load (PL)**



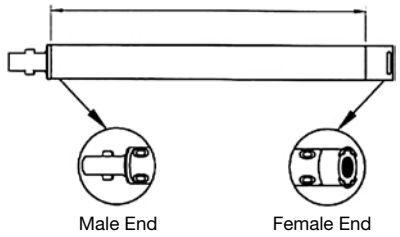
**Double Ledgers:** 5'- 2" to 10'- 0" (1.57m to 3.05m)




**System Stairways:** 3'-0" (0.91m) 3'-6" (1.06m) 7'-0" (2.13m)

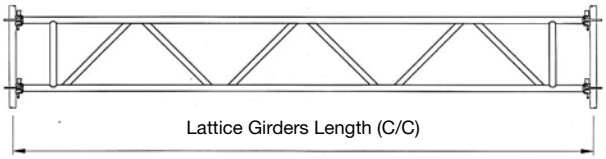


**Tubelock**: 1.90" OD Steel tube with end fitting.




**Bolt Couplers:** Drop Forged

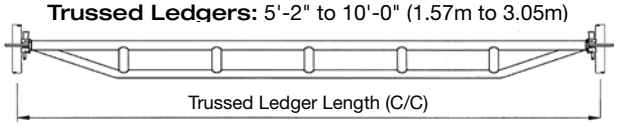
**Lattice Girders:** 14'-0" to 21'-0" (4.26m, 6.39m)



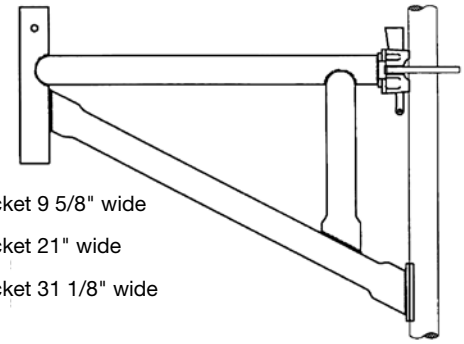

**Casters**

**Scaffold Rack**

**Trussed Ledgers:** 5'-2" to 10'-0" (1.57m to 3.05m)




**Side Brackets:** 1 Board, 2 Boards, 3 Boards;

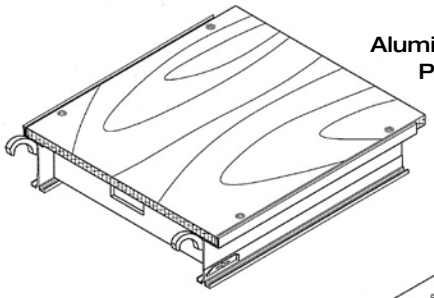


Side brackets are available in three sizes

1 Board side bracket 9 5/8" wide

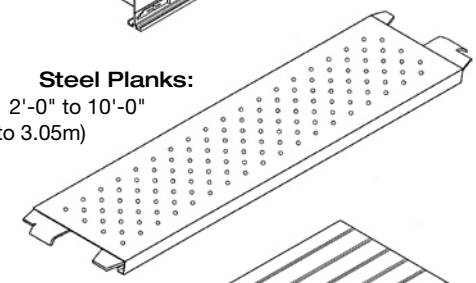
2 Board side bracket 21" wide

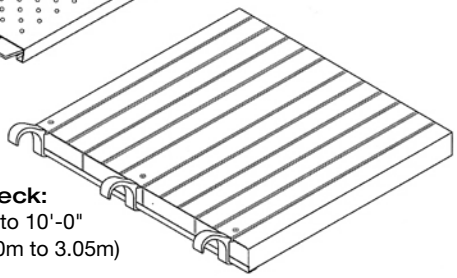
3 Board side bracket 31 1/8" wide



**Aluminum Plywood Deck:**
5'-0" to 10'-0"
(1.50m to 3.05m)

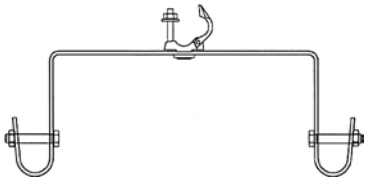
**Steel Planks:**
2'-0" to 10'-0"
(0.61m to 3.05m)





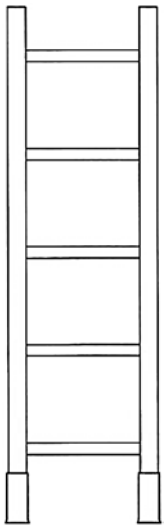
**Aluminum Deck:**
5'-0" to 10'-0"
(1.50m to 3.05m)

**Ladders:** 3'-0", 5'-0", 6'-0", 10'-0"



**Ladder Bracket (5TB 100)**

**Weigth:** 2.3 Kgs (5 Lbs)



TESTING: Material specification data sheets have been compiled from physical and chemical testing conducted by an independent US company.

ENGINEERING: For additional information on load criteria for any product in this manual, please contact our Engineering Department.

# System Scaffolding, Aluminum Decks and Aluminum Beams

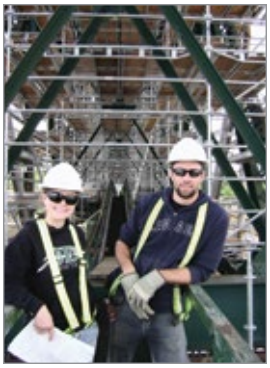
## Princess Margaret Bridge, Fredericton NB, Canada

### Project Description:

The refurbishment of a 2-lane 1 km long bridge with 17 spans crossing the St. John River. The bridge is constructed as a steel truss structure with a navigation clearance of 25.6 m (85 ft) in the centre.

### Project Challenge

To win this infrastructure project, the contractor needed a scaffolding system and deck platform that would allow them to economically and safely cover the entire 1km bridge length. The contractor chose Hi-Lite Aluminum Beams, Aluminum Decks and System Scaffolding Solution.



### Project Results:

Hi-Lite's high-strength and light weight systems allowed the contractor to reduce labour and save time and money. Made from High Grade Structural Aluminum 6351-T6, Hi-Lite Aluminum Beams could be spaced 24" apart for a 10' span and could still withstand a 75 PSF load with safety factor of 4:1. This required less product than Aluminum Beams made by other companies using weaker Aluminum 6061-T6, and less labour to erect, move and dismantle.

Hi-Lite also provided a complete System Scaffolding solution – standards, ledgers, ladders, clamps etc. that satisfied all the CSA & NB DOT requirement for bridges. Hi-Lite 7' and 10' Aluminum Decks (100 PSF and 75 PSF) were used to withstand man and material load as specified by the CSA Code - maintaining a safety factor of 4:1. The decks are light, easy to assemble and work seamlessly with the System Scaffolding Solution.


## Sales and Manufacturing Facilities

**JASCO SALES INC**
Mississauga, Ontario, Canada

**TARGET HI-LITE**
Abu Dhabi, United Arab Emirates

**SHOR-SCAF USA INC.**
Las Vegas, Nevada, U.S.A.

**HI-LITE CHINA**
Tianjin, China

**HI-LITE INDIA**
Chennai, India

Supported by seven regional offices.

Hi-Lite products are utilized by contractors in over thirty countries around the world.

**Experience**
**the Hi-Lite Advantage.**

# Experience
## the Hi-Lite Advantage.

Call 1-877-HILITE-1 (1-877-445-4831) to request a demonstration of our Hi-Lite Aluminum Systems.


**Hi-Lite Systems International Inc.**
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Canada L5T 1C8

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Toll-free: 1-877-HILITE-1 [North America] (1-877-445-4831)
Fax: 1-905-677-4542
Web Site: www.hi-lite-systems.com
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