



**HALLSTEN**  
**CORPORATION**  
INDUSTRIAL • MARINE • ENVIRONMENTAL



*We offer* BRIDGING SOLUTIONS

Steel & Aluminum  
Bridges

1-(800)-473-7440

# PEDESTRIAN



“The most innovative and cost effective pedestrian bridge on the market - **Period!**”



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- Efficient fabrication methods
  - Delivered and installed
- Up to 20,000 -pound loads
  - Attractive designs
- Maintenance Friendly
- Structurally Superior
- Chemical Resistant



# BRIDGES

Hallsten Supply Company was founded in 1966 as a supplier of prefabricated steel products to the construction industry. The company has grown into a major designer and fabricator of steel and aluminum structures, with particular experience in bridges, marine gangways, and other spanning structures.

Hallsten Supply Company's engineers and designers use the latest in Computer Aided Design and Drafting (CADD) to produce custom designs to meet the particular requirements of each project and site. This system allows clear, accurate, and complete detailed drawings and structural calculations to be produced for each design in an efficient way. Special architectural requirements can be accommodated while maintaining control of project costs.

Hallsten Supply Company generally delivers completed bridges to the jobsite with one of the Company's fleet of trucks. Larger bridges can be handled and delivered with our special bridge handling equipment, allowing design options which might not otherwise be practical.



## LITE-SPAN BRIDGES

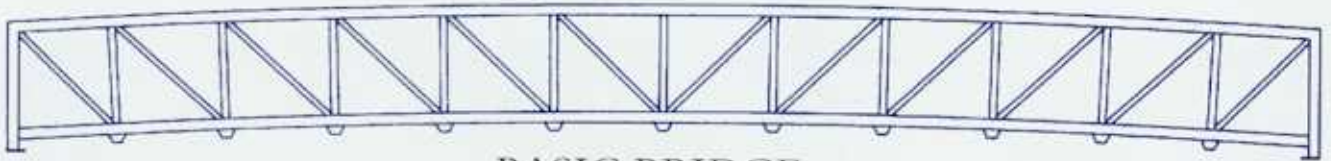
Prefabricated LITE-SPAN bridges are available in several types and with optional features to meet your requirements for a safe, attractive, durable, and economical bridge.



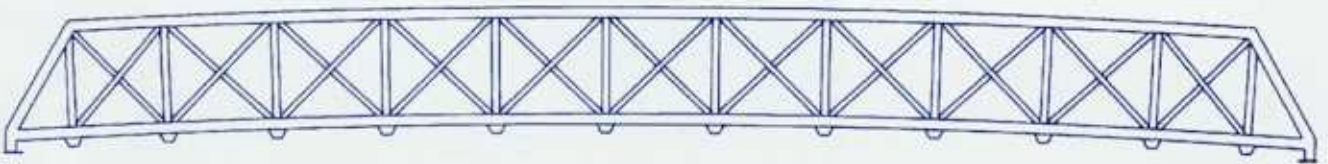
Many projects call for a high-strength steel truss bridge, and Hallsten Supply Company can provide either a through-truss or half-through truss LITE-SPAN bridge in any width or length that may be needed. In many cases, single spans up to 10 feet wide and 120 feet in span can be delivered to the jobsite in a single piece, completely finished and ready for placement. Larger bridges may require field splicing, which can be accommodated with easily assembled bolted connections. Painted finishes in any required color and type can be shop-applied, or weathering steel finish can be selected if the jobsite atmosphere is not too severe.

Bridges of shorter spans and/or lighter design loadings can be designed in aluminum, which offers significant advantages in weight reduction, corrosion resistance, and maintenance cost reduction. Hallsten Supply Company engineers can assist with the specification of an aluminum bridge to meet your special project.

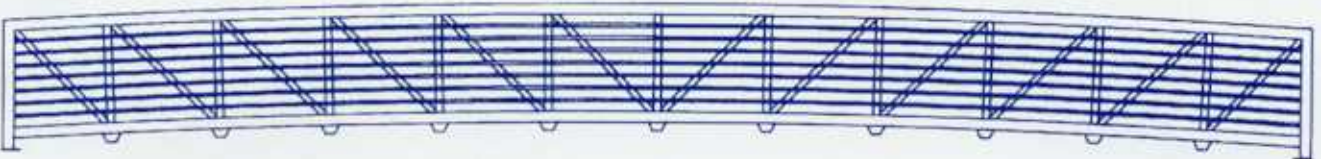
# THE HALLSTEN



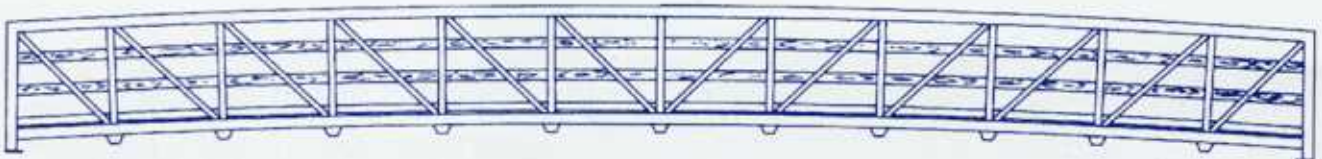
BASIC BRIDGE



CROSS-DIAGONAL BRIDGE WITH SLOPING ENDS



6" SPHERE (U.B.C. REQUIREMENT) BRIDGE



KICK PLATE/WOOD RAIL BRIDGE



ARCHITECTURAL STYLED BRIDGE

# ADVANTAGE

EFFICIENT FABRICATING METHODS HELP TO CONTROL PROJECT COSTS.



## Hallsten Aluminum Lite-Span Bridges

- High-strength steel truss bridges
- Aluminum bridges for weight reduction
- Corrosion resistance
- Maintenance cost reduction

Lite-Span Bridges are an effective Grating Substitute.



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# LITE-SPAN PEDESTRIAN AND RECREATIONAL BRIDGE SPECIFICATIONS

## I. GENERAL

This Specification is for fully-engineered clear-span truss-type bridges of welded steel construction as manufactured by Hallsten Supply Company, P.O. Box 41036, Sacramento, CA 95841. These specifications shall be regarded as minimum standards for design and construction.

## II. ENGINEERING

Complete structural calculations, showing the governing stresses in all members and connections, and detailed shop drawings bearing the seal of a registered Professional Engineer shall be submitted to the owner for approval prior to beginning fabrication.

1. SPAN: The clear span length (straight line) shall be \_\_\_ feet, \_\_\_ inches.
2. WIDTH: The inside width of the bridge deck shall be \_\_\_ feet, \_\_\_ inches.
3. DISTRIBUTED LIVE LOAD CHOICE:
  - a. Bridges up to 50 feet in span shall be designed to support a live load of 100 pounds per square foot of deck.
  - b. Bridges 50 feet or more in span shall be designed to support a live load of 60 pounds per square foot of deck.
  - c. For special requirements: Bridges shall be designed to support a minimum live load of \_\_\_ pounds per square foot.
4. CONCENTRATED (VEHICLE) LIVE LOAD CHOICE:
  - a. Bridges with an inside clear width of less than 8 feet shall be designed for a 1000 pound load on a 6" square area anywhere on the deck.
  - b. Bridges with an inside clear width of 8 feet or more shall be designed for a 10,000 pound vehicle load, plus 30% for impact. This load shall be distributed assuming a full-size pickup truck driving down the center of the bridge with 5,200 pounds on each rear wheel and 1,300 pounds on each front wheel.  
(Custom designs for heavier vehicles or special equipment loadings are available in lieu of the above options.)
5. Style
  - a. One diagonal per truss panel or,
  - b. Two crossed diagonals per truss panel.
  - c. Vertical ends on trusses (facilitates integration of fencing or railings on abutments) or,
  - d. Sloping ends on trusses.
6. ATTACHMENTS OR ACCESSORIES
  - a. Continuous life safety rails on outside of trusses, with a maximum clear opening of \_\_\_ inches.
  - b. Nominal 2 x 6 rub rails on inside of trusses, 32 inches above the top of the deck.

- c. Vinyl-clad or galvanized chain-link fencing on the sides of the bridge trusses (or completely enclosing the walkway).
- d. Continuous 6" high toe plate, 1 1/2" above deck. Other optional attachments may be incorporated upon request.

## III. MATERIALS

1. FOR PAINTED STEEL BRIDGES:  
The structure of the bridge shall be made of structural steel tubing per ASTM A500. Incidental steel angles, shapes and plates shall be per ASTM A36.
2. FOR WEATHERING STEEL BRIDGES (Not recommended for coastal or corrosive Atmospheres):  
The structures of the bridge shall be made of structural steel tubing per ASTM A847. Incidental steel angles, shapes and plates shall be per ASTM A242, A588, or A606-4.
3. WELDING ELECTRODES  
Welding shall be with E70xx or E80xx electrodes which produce welds having the same characteristics as the steel base metal.
4. BOLTS  
Bolts and nuts for any bolted structural steel connections shall be per ASTM A325. Bolts for attaching wood decking or rails to the steel structure shall be hot-dip galvanized carriage bolts.
5. WIND LOAD  
All bridges shall be designed for a wind load of 30 pounds per square foot of projected side area, as if enclosed. (Special wind loading may be specified).
6. DESIGN STRESSES
  - a. For pedestrian, bicycle, equestrian, and occasional vehicle bridges: All allowable design stresses in structural steel shall be in accordance with the "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings" by the American Institute of Steel Construction (AISC) - latest edition. All allowable design stresses in any cold-formed steel shapes shall be in accordance with the "Cold-formed Steel Design Manual" of the American Iron and Steel Institute (AISI) - latest edition. Welded tubular structure design shall be in accordance with the Structural Welding Code (ANSI/AWS D1.1 - latest edition), Chapter 10.
  - b. For vehicular bridges for highway or emergency use: All design shall be in accordance with the "Standard Specifica-



tions for Highway Bridges” by the American Association of State Highway and Transportation Officials (AASHTO) - latest edition.

#### 7. SPLICES

Field splices may be used in bridges more than 80 foot in span. The splices shall be located at approximately the 1/3 span point(s). Field splices shall be designed in accordance with the American Association of State Highway and Transportation Officials (AASHTO) specifications for structural joints using ASTM A325 bolts.

### IV. GEOMETRY

1. THROUGH TRUSS (high profile) Bridge, minimum 7 ft. clear from top of deck to bottom of overhead bracing.

#### 2. HALF-THROUGH TRUSS (LOW PROFILE) BRIDGE,

- a. The railing (top of top truss chord) shall meet or exceed the 42-inch minimum height above the deck specified by AASHTO for pedestrian use.
- b. The railing (top of top truss chord) shall meet or exceed the 54-inch minimum height above the deck specified by AASHTO for bicycle use.
- c. The railing height shall be \_\_\_ inches above the deck.

#### 3. CAMBER

- a. The bridge shall be arched with a camber of 2% of the span.
- b. The bridge shall be arched with a camber of \_\_\_ ft, \_\_\_ inches. (Inquire if a camber of more than 5% is desired.)

#### 4. DECK OPTIONS:

##### 4.1 Wood Deck Planks

- a. Nominal 2 x 10 planks for pedestrian and light vehicle loads.
- b. Nominal 3 x 12 planks for 10,000 pound vehicle or equestrian use.
- c. Nominal 4 x 12 planks for heavy vehicles or heavy equestrian use.

Deck planks shall be Douglas Fir or Hem-Fir, Grade No. 1 or better, graded according to WCLB Standard Grading Rules. To ensure adequate service life, all lumber shall be treated to a minimum retention of 0.25 pounds per cubic foot (oxide basis) with an oxide formula Chromated Copper Arsenate (CCA) or Ammoniacal Copper Arsenate (ACA) wood preservative per AWP Standard P-5.

##### 4.2 Pan for Concrete Decking

Galvanized steel form deck shall be attached to the bridge structure in the shop, for owner's use in placing a reinforced concrete deck.

##### 4.3 Bar Grating Deck

Galvanized steel bar grating deck, shop installed.

##### 4.4 Steel Plate Deck

Floor Plate (Checker plate), galvanized or painted.

Other types of decking may be specified, if desired.

### V. FABRICATION

#### 1. WORKMANSHIP

Workmanship, fabrication, and shop connections shall be in accordance with AASHTO Specifications.

#### 2. WELDING

Welding operators shall be properly experienced and able to furnish satisfactory evidence of experience and skill in welding structural steel with the kind of welding to be used in the work and who have demonstrated the ability to make uniform sound welds of the type required.

#### 3. FINISHING

##### a. Painted Bridges

All exposed surfaces of the steel shall be blast-cleaned after fabrication in accordance with Steel Structures Painting Council specification SSPC-SP6, then primed with an approved rust-inhibiting primer. The primer shall be applied before any wood decking is installed, so that the steel which will be in contact with the wood is painted. Two coats of the finish shall be applied in accordance with the paint manufacturer's instructions. Wood decking shall not be painted.

##### b. Unpainted (Weathering Steel) Bridges

(Not recommended for coastal or corrosive locations): All boldly exposed surfaces of self-weathering steel shall be blast cleaned in accordance with Steel Structures Painting Council specification SSPC-SP6.

### VI. INSTALLATION OF BRIDGE(S)

1. The Owner shall obtain all necessary information about the site and soil conditions.
2. The engineering design and construction of the bridge foundations (abutments, piers, or footings) shall be the responsibility of the Owner. Hallsten Supply Co. will provide information on bridge support reactions and bridge-to-foundation interface dimensions.
3. The Owner shall be responsible for installing the anchor bolts in accordance with the dimensions provided by Hallsten Supply Company.
4. The owner will be responsible for unloading the bridge from the truck at a location nearest the site which is accessible to over-the-road trucks at the time of arrival. Hallsten Supply Co. will notify the Purchaser of the estimated time of arrival in advance.
5. The splicing (if applicable), placement, and anchoring of the bridge is the responsibility of the Owner.



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= Decision by specified required



**O**VER 30 YEARS OF QUALITY, INTEGRITY AND INGENUITY

For over thirty years Hallsten Corporation has designed and fabricated metal structures for industry. Through this time Hallsten has developed specialized aluminum extrusions and assembly techniques that have resulted in numerous patents. Our unique aluminum extrusions, when combined with structural polymers and stainless steel components, represent a significant advance in the versatility and quality of structures for Industrial, Marine and Environmental applications.

*Hallsten Corporation - We offer solutions.*



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