

Continental® Pedestrian Truss Bridges - FAQs



Frequently Asked Questions

Why should I consider a prefabricated pedestrian truss bridge from CONTECH Bridge Solutions?

The design and fabrication of a bridge is handled for you so you save on engineering expense. Due to the fact that most structures are shipped in one piece, installation time, and cost are typically significantly less than other forms of bridge construction. Most spliced bridges can be set in less than a day.

What kinds of projects are prefabricated pedestrian bridges best suited for?

You may be surprised to know that just about any bridge that can be built by conventional means can also be prefabricated. We provide pedestrian truss structures from 10' to 250' in length with no intermediate supports. If you require a bridge over 250' in length, we can design it to set on piers. Other options include a

Continental Cable-Stayed bridge or a multiple-span bridge. A Cable-Stayed bridge is a very economical choice for a bridge between 180' and 400' clear span. We design multi-span bridges with a continuous arch for visual appeal.

If it is difficult to get a full size truck and trailer to your job site, we can build your bridge in smaller sections for assembly on location. Even if you can't get to your job site by truck, you can install a Continental Pedestrian Bridge by helicopter. If you can imagine a bridge in a given location, the chances are it can be done.

What are the most common bridge models?

[Contact us](#) if you are not sure about which bridge model is best for your application. For more detailed technical information on bridge models visit [Technical Information](#) – Bridge Models

How do I know what type of truss or truss configuration is right for my bridge?

Ask yourself the following 3 questions:

What is my bridge going over?

If your bridge is going over a creek, stream, ditch or wetland you will probably want either a Half-Through Pony or a Half-Through H-Section System depending on the length. Half-Through Pony bridges usually span up to 100' with normal pedestrian / light vehicle loadings. For spans over 100' and heavy vehicle loadings, the Half-Through H-Section System would be required.

If your bridge is going over a roadway or railroad, the clearance over the road or railroad and the need for some type of safety fencing would probably dictate a Full-Through Box System configuration. This system has a very shallow top of deck to low steel (usually less than 1'-6") and the framing for fence attachment is part of the structure.

How tall will the side trusses be on my bridge?

If your bridge is a Half-Through Pony System, the truss height will be a minimum of 42" for pedestrian only traffic, a minimum of 54" for pedestrians with bicycle traffic or L/20 (the bridge length divided by 20).

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If your bridge is over 100' and a Half Through H-Section, the truss height will be approximately L/20. Example; If your bridge is 120' long, the truss height would be approximately 6' from center to center of chords. We utilize the L/20 rule of thumb to ensure that your bridge will be structurally sound and cost effective as well as sufficiently stiff so as not to feel bouncy.

If your bridge is a Full-Through Box System, the height will be such that there is at least an 8' clear height from the top of deck to the overhead struts. For some bridges with heavy bicycle traffic, the desired clear inside height is 10'-0".

How wide should my bridge be?

The required width of the a bridge is dependant upon the length and local code requirements. Our standard widths are 4', 6', 8', 10' and 12' with special wider widths available upon request. We generally follow the same L/20 rule for the width of the bridge to ensure that it is laterally stiff for wind loads and pedestrian comfort.

Some design codes require certain widths. ADA requires a minimum 5'-0" width for two wheel chairs to pass. Most bicycle trail design guides recommend a minimum 8' width minimum to allow for two lanes of 4'-0" traffic. Some codes recommend a 2' shoulder area on each side of the traveled lanes be added to the trails and on occasion carried over the bridge. A word of caution on this; the added width can add significant costs to a bridge. Check your local codes for their requirements.

What is "weathering steel?"

Weathering steel is a term sometimes used to refer to steels with "enhanced atmospheric corrosion resistance." These steels contain certain elements that allow them, when properly exposed to the atmosphere, to form a protective oxide patina or coating. When used in an acceptable atmosphere, this patina eventually stabilizes and protects the steel from further oxidation or rusting. The color, texture, and thickness of this protective coating depend on atmospheric conditions at the bridge site.

What kind of bridge do I need; weathering steel or painted steel ?

Weathering steel, has a unique combination of materials that make it atmospheric corrosion resistant, meaning it rusts much slower than ordinary steel. The initial rust coating on weathering steel acts as a shield or coating to slow the remainder of the rusting process.

Ordinary carbon steel materials require coating (painting) after fabrication. Continental uses only the highest quality Industrial Grade paint systems.

Choosing the bridge finish:

Most of our trail bridges are specified as weathering steel. Their rustic appearance, economic pricing and low maintenance costs make this the most popular option for pedestrian trail bridges or golf courses.

Our weathering steel bridges are sand blasted to aid in providing a uniformly "weathered" appearance, all exposed steel surfaces seen from the deck and outside the bridge are blast cleaned in accordance with Steel Structures Painting Council Surface Preparation Specifications No. 7 Brush-Off Blast Cleaning, SSPCSP7 latest edition.

Weathering steel bridges can stain concrete abutments near the bearings so aesthetic requirements of your project should be considered when selecting a finish.

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Bridges that are typically weathering steel:

Golf course bridges
Trail bridges
Pedestrian access bridges in remote areas
Bridges expected to have graffiti on them
Pipe support bridges

If the bridge is located on a site where it is highly visible and near other finished painted structures or buildings, you may want to consider painting the bridge. Our bridges can be painted with virtually any color. For additional protection, painted weathering steel is an option. We can have an existing paint color computer matched, so the bridge can blend in to its surroundings.

Our standard painted bridges are blast cleaned in accordance with Steel Structures Painting Council Surface Preparation Specifications No. 6 and then painted with an Industrial Grade Epoxy Primer and a Polyurethane top coat. More sophisticated paint systems are available.

Bridges that are typically painted:

Skywalk access bridges between buildings
Enclosed conveyor bridges
Bridges in high visibility areas near other painted structures
Industrial access bridges exposed to harsh chemicals or de-icing salts
All bridges exposed to ocean air
Highway overpasses exposed to salt and road spray

Cost comparison:

Although weathering steel raw material is slightly more expensive than ordinary carbon steel, the added cost of blasting to an SP6, paint and labor makes a painted structure 20% to 30% more expensive than a weathering steel bridge.



Are there any options other than weathering or painted steel?

Hot dip galvanized or spray zinc metalized bridges are also available for more corrosive environments.

What is the difference between AISC and AASHTO?

AISC stands for the American Institute of Steel Construction. This is a governing body for steel construction standards. CONTECH Bridge is a member of AISC and designs and fabricates bridges in accordance to the guidelines of Major Bridge Construction. The minimum thickness of steel members and welding practices are important features of AISC guidelines. Most of our bridges are designed to this criterion.

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AASHTO is the American Association of State Highway Transportation Officials. AASHTO guidelines as defined in the "Guide Specification for Pedestrian Bridges," come from highway bridge design. These guidelines require greater minimum thickness of steel and more stringent design stress criteria. AASHTO guidelines will normally be required when the project is DOT specified, ISTEA or T-21 funds are involved.

Are prefabricated pedestrian truss bridges simple to install?

Yes. Most bridges up to 75 feet in length are delivered in one piece. They are removed from the truck and set on your abutment by a crane. The site naturally plays a significant role in ease of installation. Single splice bridges can usually be assembled and installed in half a day.

Are the bearings part of the bridge?

Yes. CONTECH Bridge Solutions will provide eight bearing plates. Four of the plates are welded to the bridge. The other four are placed upon the abutments prior to setting the bridge. If the bridge requires Teflon or elastomeric bearing pads due to size or seismic considerations, CONTECH Bridge usually provides them as part of the bearing assembly.

Can the abutments be at differing elevations or must they be equal in elevation?

Equal elevations always simplify design and fabrication. Bridges with abutment elevation differences are available but camber and deck slopes need to be considered. Elevation difference on bridges with skewed ends or special bearing conditions can have significant cost impacts.

Can anchor bolts be resin set or must they always be imbedded in the concrete?

The consulting engineer will determine the final answer to this question. However, in most instances, resin setting the anchor bolts is acceptable. Care must be taken to keep the drill holes fairly tight. The bearing plates allow room for this technique.

At what point do we splice the bridge?

Between 70' to 80' depending on the location and site conditions.

How do I know what type of decking surface I should choose for my bridge?

Wood is the most popular material, but there are also limitations. Wood will shrink and swell with moisture and temperature variations. On occasion it can split, crack, and can become slippery when wet. It will however, provide a durable surface for the budget minded purchaser. Concrete and asphalt can also be field applied to galvanized form decking supplied with the structure. Steel, aluminum and fiberglass grating can be supplied for industrial applications. Each decking choice has cost considerations, performance limitations, and benefits that can be discussed with CONTECH Bridge support personnel.

What are my guarantees of quality with a Continental Pedestrian Bridge?

The best mechanism for a guaranteeing a quality bridge is a well written specification. This clearly defines the expectations that the manufacturer must meet. It is important that the specifier enforce the specification. CONTECH Bridge Solution can provide the detailed specification for use in the bid documents. There are also several other elements CONTECH Bridge provides to guarantee a quality designed and fabricated bridge:

- 1) Our fabrication facility is certified in accordance with the Major Bridges with

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Sophisticated Paint Endorsement-Enclosed category of the AISC Certification Program.

2) All shop drawings bear the signature and stamp of a Registered Professional Engineer for your assurance of quality and conformance with design codes and specifications.

3) CONTECH Bridge warrants its structures to be free of design, materials, and workmanship defects for a period of 10 years.

4) CONTECH Bridge engineers thoroughly check design calculations for all failure modes that can occur in welded tubular connections.

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