

# Analysis of continuous curved girder slab bridges

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**What is the main purpose of a girder bridge?** Girders are intended to be the primary structural supports, and they have a much larger load-bearing capability. They can carry dynamic and rolling loads. Girders are used in large structures, including bridges, road flyovers, and trusses.

**What are the characteristics of a girder bridge?** Girder bridges are the simplest bridge type in structure and consist of steel beams shaped to an I-section or box section, called a plate girder bridge or a box girder bridge, respectively. Girder bridges are comprised of deck slabs, on which vehicles and people pass, and of main girders supporting the deck slabs.

**What is an example of a girder bridge?** In its simplest form, a log across a creek is an example of a girder bridge; the two most common girders are I-beam girders and box-girders used in steel girder bridges.

**What is a girder in bridge terms?** The term "girder" is typically used to refer to a steel beam. In a beam or girder bridge, the beams themselves are the primary support for the deck, and are responsible for transferring the load down to the foundation. Material type, shape, and weight all affect how much weight a beam can hold.

**What are the disadvantages of a girder bridge?** Weather impact: Steel girder bridges can be impacted by weather conditions, such as ice, snow, and high winds. Cost: Steel girder bridges can be expensive to build and maintain due to the high cost of steel and the specialized construction equipment required for their construction.

**What is the difference between a beam bridge and a girder bridge?** Beams are intended to bend to resist and redistribute the load. Girders, on the other hand, are more rigid, as they are there to support the beams and provide the main horizontal support for the structure. The girder is built to support significant, all-encompassing loads such as structural pillars or beam responses.

**What is the strongest type of bridge?** These are called truss bridges. Triangles are structurally the strongest shape because they allow weight to be evenly spread throughout a structure, allowing it to support heavy loads. Truss patterns are used in other structures as well, such as roofs, radio towers, crane arms and more.

**What are the disadvantages of an arch bridge?**

**What is the strength of girder bridge?** In the precast, prestressed concrete bridge field, a specified compressive strength of 41 MPa (6,000 psi) for bridge girders has been used for many years.

**What is the maximum length of a girder?** The maximum allowable length of a steel girder used in bridges varies depending on several factors, including the strength and weight capacity requirements of the bridge, as well as safety regulations. Typically, the maximum length ranges from 45 to 60 feet (around 13.7 to 18 meters).

**What is the depth of the girder bridge?** Generally, the depth of the girder is no less than  $\frac{1}{15}$  the span, and for a given load bearing capacity, a depth of around  $\frac{1}{12}$  the span minimizes the weight of the girder.

**What are the two types of girders?**

**What are the structural characteristics of a girder bridge?** The structural characteristics of various bridges are fascinating and vital to their function. A girder bridge is arguably the most basic type of bridge, mainly consisting of horizontal beams (girders) and vertical pillars. The load is transmitted to the pillars, which bear most of the weight.

**What is the difference between a girt and a girder?** Girders often have an I-beam cross section composed of two load-bearing flanges separated by a stabilizing web,

but may also have a box shape, Z shape, or other forms. Girders are commonly used to build bridges. A girt is a vertically aligned girder placed to resist shear loads.

**How do you identify a girder?** Girders are large horizontal beams that act as the primary support for a building, to which all other smaller beams are connected, forming the structure's "skeleton." That's the easiest way to picture the difference: girders are oversized beams. In fact, all girders are beams, but not all beams are girders.

**What is the weakest type of bridge?** We did further research after our experiment and learned that beam bridges are actually the weakest of all bridges and suspension bridges are the strongest.

**What is the major drawback of continuous span bridges?** Seven cross-over lanes connect the two main sections and function as pull-over bays in emergencies. Although impressive, the Lake Ponchartrain Causeway bridge underscores the drawback of continuous spans: they are not well suited for locations that require unobstructed clearance below.

**What is the best design for a bridge?** Truss bridges are extremely effective because they have a high strength to weight ratio. In this experiment we have tested which type of truss bridge is the strongest, yet uses the least amount of material.

**What type of bridge can span the longest distance?** Suspension bridges are amazing, wonderful structures. They appear almost fragile, viewed from a distance. Yet, they are very strong and nowadays are the world's longest bridge type. They are used for the longest crossings.

**Why is one end of a steel girder in a bridge?** One end of girder is fixed in concrete, but the other end is not fixed into concrete. It is supported on rollers. This is because when temperature increases in summer, the steel girder in a bridge expands and the rollers slide to allow the expansion otherwise the bridge may break.

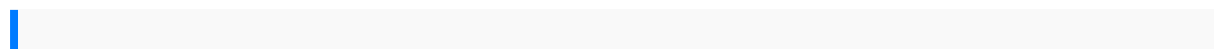
**Which is bigger beam or girder?** Girders are similar to beams but tend to be larger and more robust. Girders also support weight but are used to span longer distances than beams. Girders are frequently used in bridges, supporting the roadway above and the piers below.

**What is the point of a girder?** Girders are fundamental in transferring loads from various parts of a building to its foundation and other structural members. They are usually made from robust materials such as steel, reinforced concrete, or wood, depending on the specific requirements of the construction project.

**What is the purpose of a girder quizlet?** It is a rigid structural member designed to carry and transfer traverse loads across space to support elements such as columns and posts. It is any of a series of small parallel beams for supporting floors, ceilings or flat floors.

**What are the benefits of girder?**

**What is the main purpose of a girder truss?** Primarily, the role of a girder truss is to support other structural elements in the frame, such as traditional trusses, rafters or purlins. For that reason, girded trusses are designed to be exceptionally strong and rigid.



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