

Bridge-type Frame

Article Overview

A frame bridge is a structure where the deck and supporting piers act together as a rigid frame to transfer vertical loads, often resembling the behavior of arches.

Definition and Structural Concept

A frame bridge is characterized by pronounced frame action, meaning the bridge deck and supporting piers or struts work together to resist loads, rather than relying solely on simple supports or hinges. This rigid connection allows the bridge to efficiently transfer vertical loads to the foundations, similar to the load distribution in arch bridges. Unlike traditional hinged designs, modern frame bridges avoid hinges to improve durability and reduce maintenance issues.

Types of Frame Bridges

Frame bridges can be classified based on geometry and materials:

- Orthogonal frames: Rectangular or square configurations, often used for grade separations like flyovers and underpasses.
- Trapezoidal frames: Slanted or V-shaped supports, suitable for modest spans and aesthetically favorable in urban settings.
- Concrete strut frames: Typically used for shorter spans, though more expensive for long spans due to falsework costs.
- Composite steel frames: Inclined steel legs installed from abutments, economical for longer spans.
- Buried frames: Used in pedestrian underpasses or train station access, where the...

Article Content

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Brace stiffness and forces of X-Type, K-Type, and Z-Type cross frames ...

Cross frames can utilize a variety of layouts: the X-Type and K-Type cross frames are commonly used in current

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7 Main Types Of Bridges

There are numerous types of bridges, each designed to meet specific engineering

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Types of Bridges for Glasses | America's Best

Learn about the three types of common glasses bridge types: saddle bridge, adjustable nose pads, and

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2. Historical Background Of Steel Bridges

Prefabricated Steel Bridge Systems: Final Report 2. Historical Background Of Steel Bridges This chapter presents a

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Cross Frame Design for Curved and Skewed Bridges

Cross frame design Curved Bridges: Cross frames are required to maintain stability in curved girder structures. Cross frames must

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0-6564: Improved Cross Frame Details (Project Summary)

For use in the design of steel bridges, the individual cross frame members must also provide a minimum fatigue

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The Basic Types of Bridges

The term "covered bridge" refers to a specific kind of structure, not just any bridge with a roof. It is a timber-truss bridge that

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Rigid-frame bridge

A rigid-frame bridge is a bridge in which the superstructure and substructure are rigidly connected to act as a continuous unit.

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Types of Bridges | Bridge Construction | Bridge Structures

Bridges with rigid frames require more complex calculations than those with simple girders. Building an accurate and detailed

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Steel bridges

Various types of steel bridges are: 1. Steel Truss Bridges 2. Steel Arch Bridges 3. Steel Rigid Frame Bridges 4. Steel Bow String

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Types of Bridges

Below is the list of 5 main types of bridges based on support mechanism: 1. Girder bridges: It is the most common

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Rigid frame bridge

Rigid frame bridges are sometimes also known as Rahmen bridges. In a standard girder bridge type, the

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Bridge Engineering – Types of Bridges

Bridge Engineering -Types of Bridges Over the last several thousand years, bridges have played one of the most

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Types of Bridges Based on Span, Materials, Structures, Functions ...

There are various types of bridges classified based on span, materials, types of bridge structures, functions, utility and position etc.

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Types of Bridges – Bridge Types Arch, Girder, Cable, Truss, Rigid Frame

Bridge Types The five primary types of bridges are listed below according to their support mechanism: 1. Girder

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What are the Types of Frame Structures? - theconstructor

Different types of frame structures are available that have been used in building construction. They are classified into two major types

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20 Types of Bridges Explained: Designs, Examples

From suspension to truss — explore all 20 bridge types with real-world US examples,

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7 Types of Bridges Every Engineer Should Know About

Learn about the 7 different types of bridges and read about the advantages and

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Microsoft Word

The truly essential function of traditional cross-frame diaphragms is to stabilize the girders' compression flanges. Many different

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List of bridge types

This is a list of different types of bridges. "The five main bridge designs". ECL Civil Engineering. 21 March

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Modern Steel Construction • October 2020 • Keeping Cross-Frames in Check

CROSS-FRAMES ARE A BIG DEAL —and they're getting bigger. Cross-frames are important bridge components, as

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Structural Frame Types And How They Work {2026 Guide}

Structural frames are a static system commonly used for structures like warehouses, sports halls, carports and bridges.

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The Basic Types of Bridges

History Bridges have played a prominent role in developing transportation, communication, and international and local trade since

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18 Types of Bridges

Introduction Types of Bridges – Components, Benefits & Limitations [Explained with Pictures]: – The bridge

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Different Types of Bridges

Different types of bridges constructed in the world are discussed in the article. Nature of construction, load

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Types of Bridges in Civil Engineering

Bridges play an important role in modern infrastructure. It serves as an important link in the transportation network. in

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Bridge Engineering

Types of Bridges - Bridge Types Arch, Girder, Cable, Truss, Rigid Frame Below is the list of 5 main types of bridges:

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Frame bridges

Frequent types of frame bridges and their fields of application are illustrated on the right. Historically, frame bridges were often

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