Build a temporary bridge



Overview

Acrow specialize in the design and manufacture of prefabricated modular steel bridges for detour, rental, temporary & permanent applications.

Key Takeaways

A temporary bridge can be built using modular prefabricated components, prepared abutments, and rapid assembly techniques such as launching or crane-assisted placement to ensure safe, short-term passage.

Planning and Site Preparation

Before construction, assess the site conditions, including soil composition, bearing capacity, and access constraints. Prepare temporary abutments using compacted aggregate, precast concrete blocks, or shallow pile systems to provide a stable foundation for the bridge load. Ensure the approach ramps are level and capable of supporting vehicles or equipment that will cross the bridge.

Conduct a ground investigation and bearing capacity tests to confirm the site can safely support the temporary structure.

Choosing the Bridge Type

Temporary bridges can be modular, prefabricated, or panel-based, suitable for pedestrian or vehicle traffic. Options include: Aluminium or steel modular bridges for trenches, streams, or construction sites. Panel bridges that can be pre-assembled and launched across the gap.

Cantilever or launching bridges for longer spans where cranes are impractical. Select a bridge type based on span length, load requirements, and site accessibility.

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Assembly Techniques

Launch Method: Assemble the bridge on one bank and incrementally push it across the gap using rollers and a temporary launching nose to guide the structure.

Crane-

Assisted Placement: Pre-construct the bridge in sections and lift them into position using mobile cranes, adding decking after the main structure is in place.

Flat-

Pack Modular Assembly: Use modular units that can be installed side by side without heavy lifting equipment, ideal for restricted sites or rapid deployment. Ensure all components are aligned and securely connected using designed pin or bolt connections.

Safety Considerations

Follow worker safety protocols during assembly, including fall protection and handling of heavy components. Ensure structural safety under anticipated loads, including vehicles, equipment, or pedestrian traffic. Maintain public safety by controlling access to the construction area and using signage or barriers.

Maintenance and Removal

Temporary bridges are designed for limited service life. Once the bridge is no longer needed: Disassemble components in reverse order of installation. Inspect and repair any damaged sections using non-destructive testing methods.

Store reusable components for future projects.

Key Advantages

Rapid deployment minimizes traffic disruption and maintains access for emergency services. Cost-effective compared to permanent construction, especially for short-term needs. Adaptable to various terrains and site restrictions, including flood-hit or remote areas.

By following these steps and selecting the appropriate modular system, a temporary bridge can be safely and efficiently constructed to meet short-term access needs.

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Article Content

Acrow | Temporary Prefabricated Steel + Modular Bridge Solutions

Acrow specialize in the design and manufacture of prefabricated modular steel bridges for detour, rental, temporary & permanent applications.

Temporary Structures Manual, Chapter 8

These structures are designed and installed to provide a reliable crossing over roadways, waterways, or other obstacles when the permanent bridge is unavailable due to damage, maintenance,

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Bailey bridge

A Bailey bridge has the advantages of requiring no special tools or heavy equipment to assemble. The wood and steel bridge elements were small and light enough

How Temporary Bridges Are Designed and Installed

Learn the engineering behind rapid-deployment bridges, covering modular design, installation methods, safety protocols, and essential use cases.

Temporary Bridge Installation Process: Step-by-Step

This comprehensive guide examines every aspect of the temporary bridge installation process, providing detailed insights into best practices, safety

Temporary Bridge Solutions

Our modular, solid steel bridges are designed for rapid deployment in rugged terrain and hard-to-reach job sites. Built with 4'' wide panels

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Learn the step-by-step temporary bridge installation process. This guide covers everything from planning to construction, ensuring a safe and effective build.

Temporary Works Explained | Institution of Civil

What are temporary works? The term ''temporary works'' comes from old contractual language where the ''permanent works'' is the thing you''re being

Permanent vs Temporary Bridge Construction: A Guide

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Most likely, you''re thinking of building a temporary bridge until permanent construction is completed, but does that save money or time?

Temporary Pedestrian Bridge Plans: Comprehensive

Temporary pedestrian bridge plans outline the specifications, materials, and installation procedures required to create a reliable, short-term

How to Build a Floating Bridge in 12 Minutes

In July, the 132nd Multirole Bridge Company of the California National Guard reported to Cache Creek Regional Park to build a temporary

Temporary Structures Manual, Compiled PDF

Acknowledgements The 2025 Temporary Structures Manual is the result of Structure Construction and industry partners seeking uniformity and consistency in the administration of projects with various

Temporary Bridges

Our temporary bridge structures cater for the construction, transmission, rail and events sectors. A range of vehicle bridges and pedestrian bridges are available for hire from 4m - 12m.

Choosing the Right Temporary Bridge: Key Considerations for Your ...

Selecting the right temporary bridge for your project is essential to ensuring safety, efficiency, and smooth execution. Whether you''re an event planner, construction manager, or rail operator,

Effective Temporary Bridge Solutions to Ensure Access

Ensure construction access with top temporary bridge solutions. These effective, cost-saving designs solve urgent access issues during your

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. Mitchell Bridges specialise in building temporary Pedestrian & Vehicle Bridges for Events, Film, Rail and Construction. For over 30 years we have been helping our customers and partners to cross from

What are Temporary Bridges

All temporary bridges are provided with the necessary safety provisions – including handrails, textured floor panels and additional reinforcements – to ensure that

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