Layher

More Possibilities. The Scaffolding System.

Quality management certified according to DIN EN ISO 9001

Product overview

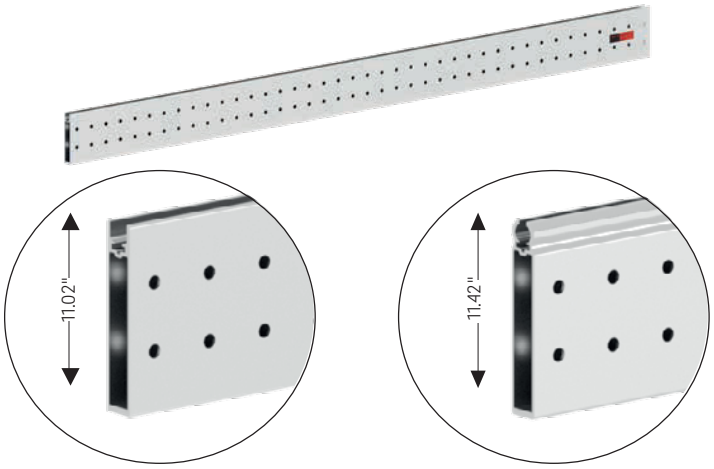
FLEXDECK MODULAR PLATFORM SYSTEM

LAYHER FLEXDECK

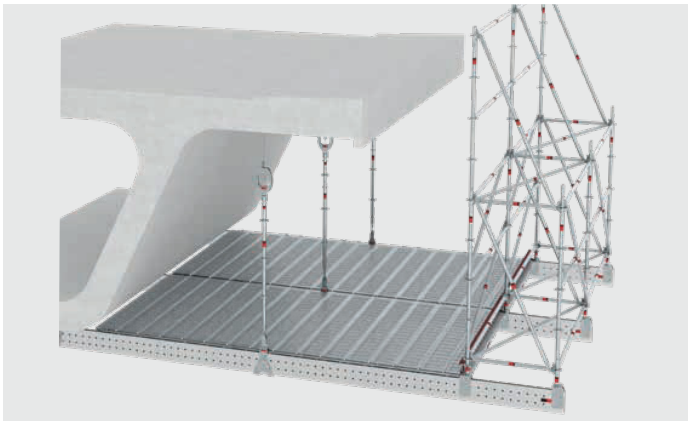
As bridge repair and rehabilitation projects continue to grow, Layher **FlexDeck** provides an efficient modular platform solution for contractors, bridge owners, infrastructure agencies, and engineering teams. Designed to reduce assembly time, labor demands, and overall project costs, **FlexDeck** helps accelerate schedules while maintaining high safety standards and the proven quality expected from Layher.

The Layher FlexDeck is built around the versatile aluminum FlexBeam, engineered specifically for demanding bridge access applications.

- Lightweight aluminum beam for easier transport and handling
- Low-profile design with a structural height of just 11.02 in. (11.42 in. in the O-version) to help maximize clearance beneath structures
- High bending and shear load capacities for demanding access and support applications
- System decks connect directly into the beam for faster installation
- Integrated lift-off protection helps secure decks during use
- In most applications, additional compression chord bracing is not required



U-FlexBeam O-FlexBeam



Bridge underside access is becoming increasingly critical for bridge maintenance, inspection, and rehabilitation projects.

Learn more

The aluminium FlexBeam for cantilevered construction

yt-u-flexbeam-cantilever.layher.tv

Benefits at a glance:

- High load capacity helps reduce the number of suspension points required
- Fast assembly with directly suspended system decks and integrated lift-off protection
- Lightweight, compact components at just approx. 3.67 lbs/ft. for easier handling on site
- Modular design adapts to a wide range of bridge configurations
- No external power source required during installation
- Fully integrated with all Layher scaffolding systems
- Backed by engineering support, structural calculations, and detailed assembly guidance

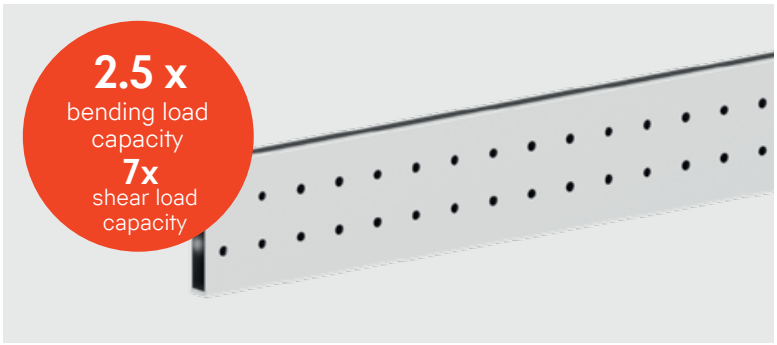
BRIDGE REPAIR SOLUTIONS

High load capacity with a **compact, lightweight design.**

Compared to a traditional Steel Lattice Beam 450, the Layher FlexBeam delivers:

- Up to 2.5x higher bending load capacity, allowing for larger support and suspension configurations
- Maximum permissible bending moment of 15,474 ft-lbs @ 4:1
- Up to 7x higher shear load capacity, regardless of load introduction point
- Maximum permissible shear force of 13,690 lbs @ 4:1
- Low structural height of just 11.02 in. (11.42 in. O-version)
- Lightweight design at approximately 3.67 lbs per linear foot

The result: high-capacity bridge underside access with fewer suspension points and greater flexibility in the field.



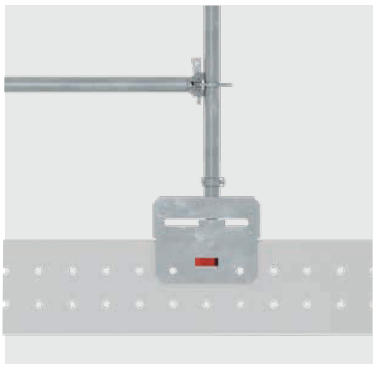
High load capacity in a lightweight, low-profile design

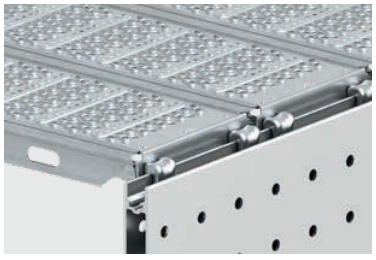
Fast, straightforward connection technology.

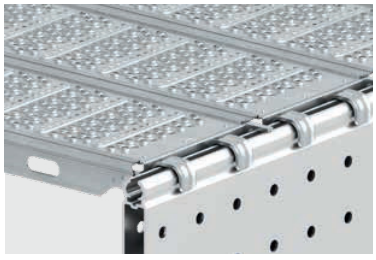
An integrated beam connector with locking pins and safety clips allows continuous beam configurations and quick connection of suspended elements or other Layher system components.

Flexible scaffold integration allows for adaptable grid and suspension configurations to suit varying bridge geometries and site conditions.

The FlexBeam aluminum section allows standard scaffold decks to be installed directly onto the beam, creating a fully decked, level work platform with secure, continuous walking access.

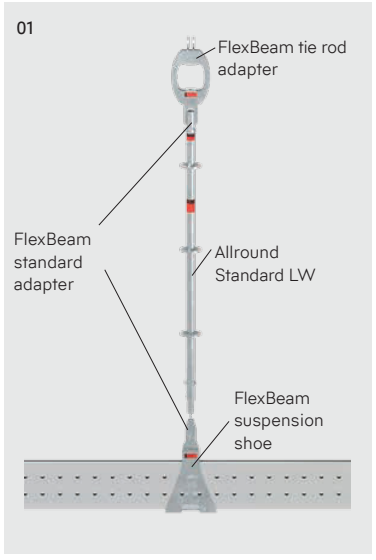


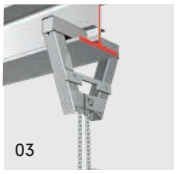


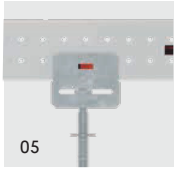


Multiple suspension and attachment options allow the Layher FlexDeck system to adapt to a wide range of bridge structures and access requirements.

- Fig. 1: Anchored to the bridge structure using tie rods
- Fig. 2: Attached to steel bridge beams with clamping plates
- Fig. 3: Suspended from steel beams using beam grippers and chains
- Fig. 4: Movable platform configuration using single-rail trolley
- Fig. 5: Work platform suspended directly from FlexBeams
- Fig. 6: Platform supported using wall brackets







FLEXDECK

Bridge cap repair application with integrated fall protection. The beam system's low-profile design, at under 11.81 in., helps maximize headroom beneath the structure.

Freely positioned scaffold decks combined with adjustable angle connections at the **Allround®** rosettes allow the system to adapt to curved bridge layouts and changing site conditions.

Fewer suspension points are required thanks to the system's high load capacity, allowing more open access beneath bridge structures and around bridge caps with less interference during repair work. Layher scaffold decks create a fully decked, level work platform with secure, continuous walking access.

FlexDeck allows height-adjustable beam installation to follow changing bridge contours, helping reduce material requirements on arched and variable-profile structures.

Suspension can be configured both above and below the beam level thanks to full integration within the Allround system and standard Layher dimensions.

The FlexBeams extend transversely to the bridge axis, making it easy to incorporate lateral access points and cantilevered work platforms.

EFFICIENT.

DESIGNED FOR SAFETY

Safer assembly using a cantilevered installation method:

For large continuous work platforms beneath bridge structures, FlexDeck can be assembled using a cantilevered installation method. This approach allows the platform to be extended bay-by-bay up to 3.07 m beyond the existing scaffold width, significantly improving assembly speed compared to many conventional systems. The result is reduced closure durations, lower labor requirements, and improved project efficiency.

Assembly is also largely **tool-free**. Integrated guardrails for fall protection are installed using the Allround system, and because crane support is typically not required, no external power connection is needed during assembly.

Cantilevered installation is possible with both the U-variant and O-variant.

FlexDeck work platform assembled using a cantilevered construction method underneath a bridge (assembled condition shown)

Assembly steps:

Step 1: Attach the receiving brackets to the leading FlexBeam. Then secure the front and rear roller units of the longitudinal beams to the previously assembled FlexBeams at the required spacing for structural performance. Insert the longitudinal beams into the roller units.

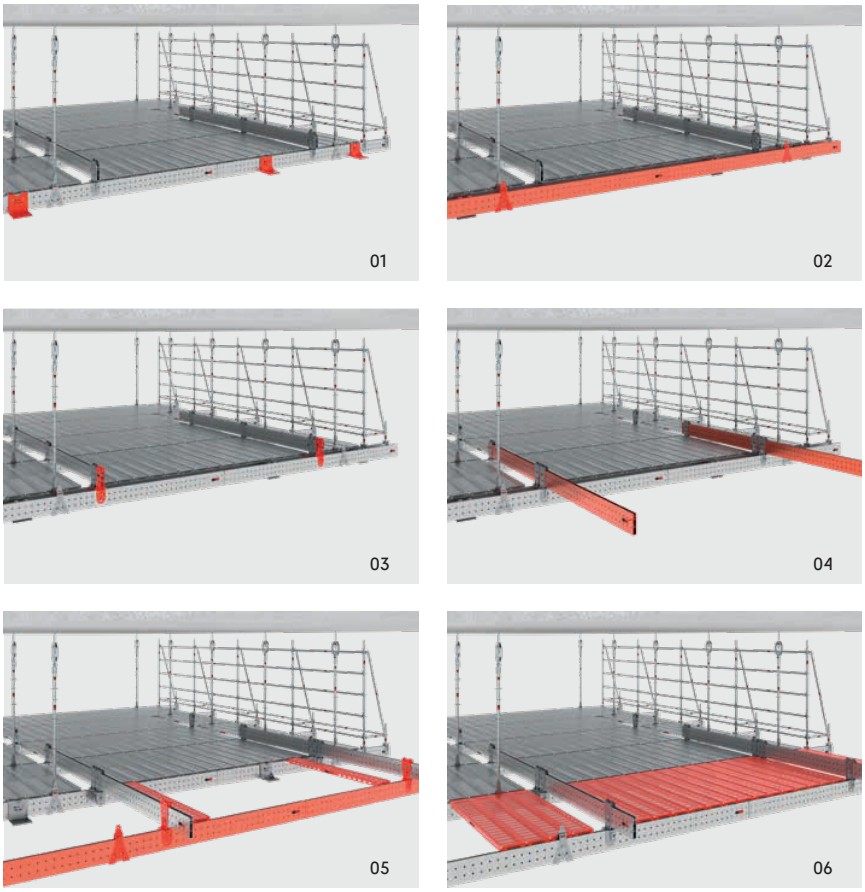
Step 2: Position the transverse FlexBeams, pre-fitted with suspension shoes, onto the receiving brackets. On the opposite side, install the fitting retainer and connect it to the receiving bracket using a double wedge head coupler. At this stage, the wedges are inserted but not fully driven in. The transverse beam is now secured.

Step 3: Install the roller unit onto the front transverse beam. Advance the longitudinal beams slightly forward and secure them using pins and safety clips as stops.

Step 4: Advance the longitudinal FlexBeam forward by one bay. Secure the rear of the beam using a pin and safety clip.

Step 5: Release the double wedge head coupler, remove the fitting retainer, and advance the transverse beam section one bay in the installation direction using scaffold decks.

Step 6: Install the suspended section and fully deck the platform area.



Repeat these steps incrementally bay by bay. Reposition the rearmost roller unit onto the leading transverse beam (see step 3). Secure all components using locking pins.

LAYHER FLEXDECK

With **FlexDeck**, crews can **assemble faster, reduce labor** on site, and **keep projects moving efficiently**. The modular platform system offers the following **advantages:**

Faster to build
especially in cantilevered applications where the platform can advance across the full scaffold width in a single sequence

Ergonomic to assemble
thanks to lightweight individual components and beam weights of only approx. 3.67 lbs per linear foot

Streamlined system design
using the Allround® construction kit with only an effiicient number of additional components

High load capacity
suitable for demanding bridge maintenance and rehabilitation applications

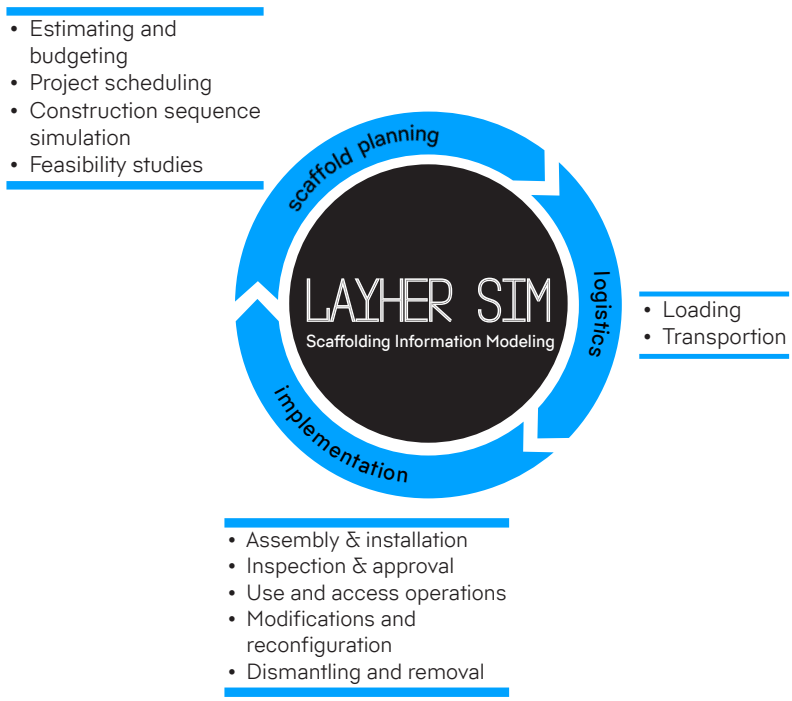
Ideal for restricted access
areas with a low-profile beam height of just 11.02 in. or 11.42 in.

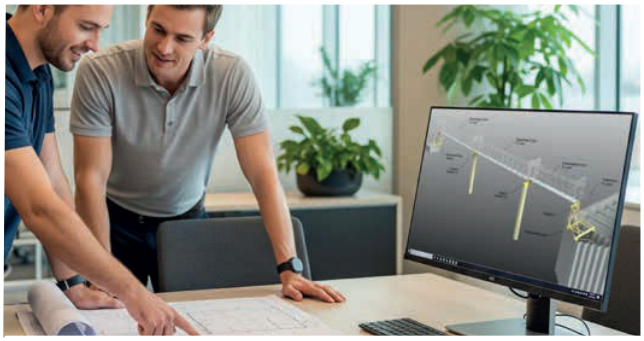
Adaptable and versatile
for suspended, stationary, mobile, small-scale, or complex bridge access configurations without requiring external power sources

Easy **planning** and job **preparation**

- Extensive technical documentation and integrated LayPLAN SUITE tools streamline project planning and layout development
- Layher Scaffolding Information Modeling supports digital project coordination and workflow integration
- Standardized Layher pricing tools support more reliable estimating and budgeting
- Access to Layher application engineers for project planning and technical support
- High material availability helps projects start on schedule and stay on track in the field

Helping projects **start on time** and **stay on schedule.**





Digital surveying and digital planning for estimating, assembly drawings, and material management.

On-site support from sales engineers and field support specialists, backed by a comprehensive range of hands-on and technical training programs.

WE CALL THAT A FLEX.

FlexDeck repair platforms can also be installed beneath bridge structures in movable configurations, allowing the work platform to advance along with the progress of the project.

Smaller work platforms can also be suspended from a trolley system positioned on the bridge deck and moved to the required work area, making them ideal for localized maintenance and repair applications.

Because FlexDeck work platforms are fully suspended and do not require ground-supported scaffolding, they can also be used on lift bridges and swing bridges where low system weight and minimal interference are critical.

For bridge pier applications, compact FlexDeck platforms can be supported using Allround wall brackets to provide efficient access in confined areas.

As an alternative to standard Allround wall brackets, support brackets can also be built using the aluminum TwixBeam system.

Full integration within the Layher system allows additional scaffold structures and access configurations to be extended in virtually any direction using Allround Scaffolding.

Layher

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AT LAYHER, STRONG PARTNERSHIPS START WITH BEING THERE WHEN OUR CUSTOMERS NEED US. WITH LOCAL TEAMS, INVENTORY, ENGINEERING, AND PROJECT SUPPORT ACROSS NORTH AMERICA, WE WORK CLOSELY WITH OUR PARTNERS TO HELP KEEP PROJECTS MOVING SAFELY, EFFICIENTLY AND SUCCESSFULLY.

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