Product Guide
Why Mabey?

Engineering experience.

Backed by nearly 100 years of professional engineering, we have a long history of innovation in construction. We have built on our engineering success, investing in new product development, advanced production systems and supporting the professional development of our engineers to continue excellence in the field.

From the development of modular bridging systems, used around the world, to the development of new shoring products used to expedite the excavation process, Mabey continues to deliver ground-breaking solutions to accelerate construction projects in a safe and efficient manner.

Many organizations simply provide the products necessary to complete the job. But at Mabey, our team of professionally qualified engineers work closely with our customers to develop, design and install solutions as well as provide site support for the most challenging bridging and temporary works projects.
Why Rent?
Choosing Mabey for a financial advantage.

- Pay for the equipment only when you need it
- Avoid financing the purchase of equipment where long-term utilization is likely to be low
- Avoid the costs of storage and maintenance
- Avoid the capital cost of equipment on your balance sheet and significantly improve the return on investment of your company
- Free up valuable capital for other projects
Education & Training

Mabey’s commitment to safety is shared with our customers through our training. We believe education is essential to keeping your crew safe and knowledgeable about equipment and procedures, thereby expediting your jobs and keeping them on time and on budget. Our objective is to train your crew to make them perform safer, faster, and reduce accidental damage and injury caused by subpar techniques. Our facilities are outfitted for classroom and job site simulation for hands-on training.

Course offerings:
- Safety Refresher
- Safety Lunch-and-Learn
- Excavation Safety
- Sheet and Frame Installation
- Slide Rail Installation
- Comprehensive Excavation Systems Installation

WHO WILL BENEFIT?
- Owners
- Estimators
- Project Managers
- Supervisors
- Equipment Operators
- Laborers
- Safety Managers

1-855-MB-TRAIN
training@mabey.com
Excavation Shoring

Whether you’re installing a sewage system, utility service or an underground storage tank, Mabey has the excavation shoring equipment you need.
Excavation Shoring

Sheet & Frame System

Powerbrace

For any size excavation in unstable soils. Powerbrace systems are fully compatible with Mabey’s other waler and strut systems.

Benefits

• A wide range of lengths and connects with fully adjustable hydraulic rams to custom fit your excavation.
• The heavy-duty design and adjustable hydraulics deliver enhanced safety and reduced installation and removal times.
• Pinned joints allow for irregular-shaped excavations.
• Eliminates need to slope.
• Fully adjustable walers with hydraulic rams give you the strength of steel with NO CUTTING or WELDING.
• Hydraulic rams have pinned corners and adjust to suit any excavation.
• Minimal site assembly.
• High-load capacity
• Modular system allows for excavation sizes in a range of 10-83 feet, depending on ground conditions.
• High strength steel construction helps minimize waler size. This means a smaller excavation, reducing time and expense.

Mabey Waler Systems

<table>
<thead>
<tr>
<th>Single Leg Characteristics</th>
<th>Super Powerbrace</th>
<th>Super Powerbrace Plus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max length</td>
<td>52 ft</td>
<td>83 ft</td>
</tr>
<tr>
<td>Approx. Max. Load at 52.5 ft</td>
<td>1,760 lbs/ft</td>
<td>5,600 lbs/ft</td>
</tr>
<tr>
<td>Approx. Max. Load at 65.6 ft</td>
<td>N/A</td>
<td>3,420 lbs/ft</td>
</tr>
<tr>
<td>Approx. Max. Load at 83 ft</td>
<td>N/A</td>
<td>2,450 lbs/ft</td>
</tr>
<tr>
<td>Approx. Max Load at 46 ft (length of typical underground tank excavation)</td>
<td>2,670 lbs/ft</td>
<td>7,530 lbs/ft</td>
</tr>
</tbody>
</table>

*approximations at maximum length of brace.
Bracing Struts

Mabey’s Bracing Struts are required when the load imposed by the ground exceeds the load capacity of the waler. This can occur during very large excavations or anytime that high loads are imposed. As always, Mabey’s engineering staff is available for advice and calculations. All struts work for Mabey’s Powerbrace Systems.

**JC Strut**
- Size Range: 1.64’ – 20.00’
- Capable of supporting 100 kips
- Manually operated screw jack system

**Mechanical Bracing Strut**
- Size Range: 7.48’ – 26.21’
- Capable of supporting 90 kips
- Manually operated

**Hydraulic Bracing Strut**
- Size Range: 5.4’ – 30.0’
- Capable of supporting 81 kips
- Hydraulically powered

**Super Strut**
- Size Range: 13.3’ – 64.4’
- Capable of supporting 281 kips
- Hydraulically-assisted removal
Excavator-Mounted Vibrator

Mabey’s Excavator-Mounted Vibrator (EMV) breaks the mould of traditional crane-mounted vibratory piling machines by directly attaching to your excavator. Localized directional vibration keeps soil disturbances to a minimum to protect the surrounding infrastructure.

- The EMV 300 model has a compact design with a high power-to-weight ratio.
- Heavy-duty 450 model provides up to 91,000 lbs. of centrifugal force.
- All models easily connect to your excavator. No special adjustments or fittings are necessary.

Quick-Release Piling Shackle

Mabey’s Quick-Release Piling Shackles allow your crew to rapidly hoist sheets into place. Just hook the shackle onto the sheet’s lifting hole. With the sheet positioned, simply pull the security ring to free the sheet.

- Unique ground release design ensures a safe, “feet on the ground” approach to piling.
- Shackle can be released without placing a worker at the top of the piling.
- Pin capacity is 8.25 tons.
Excavation Shoring

Steel Sheetpile

- Suitable for both permanent and temporary applications.
- Available in a variety of sizes and lengths.
- Both overlapping and interlocking sheets are available.
- Corner sheets available for interlocking sheets.
- Specialized coatings and waterproofing options available.

<table>
<thead>
<tr>
<th>Sheet Model</th>
<th>Effective Width (w)</th>
<th>Thickness (t)</th>
<th>Height (h)</th>
<th>Weight (linear)</th>
<th>Weight (area)</th>
<th>Section Modulus</th>
</tr>
</thead>
<tbody>
<tr>
<td>S64 (Medium Interlocking)</td>
<td>27.75'</td>
<td>0.250'</td>
<td>5.91'</td>
<td>33.90 lbs / lin. ft</td>
<td>14.70 lbs / ft²</td>
<td>7.89 in³ / lin. ft</td>
</tr>
<tr>
<td>CZ114 (Heavy Interlocking)</td>
<td>24.02'</td>
<td>0.335'</td>
<td>13.39'</td>
<td>46.83 lbs / lin. ft</td>
<td>23.40 lbs / ft²</td>
<td>31.60 in³ / lin. ft</td>
</tr>
</tbody>
</table>

Steel Sheetpile
• Suitable for both permanent and temporary applications.
• Available in a variety of sizes and lengths.
• Both overlapping and interlocking sheets are available.
• Corner sheets available for interlocking sheets.
• Specialized coatings and waterproofing options available.
Mabey’s sheeting covers a range of uses in both permanent and temporary construction applications.

- Overlapping sheets are used as an economical alternative to timber in trenches and other shallow excavations.
- Interlocking sheets can be used for applications ranging from river bank protection to deep excavations.
- All sections can be used with our hydraulic framing systems.
- Sections are available for rent and sale.
- Coated finish options available for sale.
- Ideal for crowded sites.
Excavation Shoring

Sheetpile Capping System

Mabey’s Sheetpile Capping System provides a method of supporting formwork for capping beams on permanent sheetpile walls.

- Very quick to set up and move.
- Simple to use.
- Provides a pre-engineered system as opposed to on-site fabrications.
- Eliminates the waste of consumable materials.
- Easily conforms to as-driven sheetpile.
- Brackets available to cover a wide variety of sheetpile widths.
- Provides a working platform for site personnel with built-in walkway and guardrail.
- Eliminates need to cut or weld.
Slide Rail System

Mabey Slide Rail is a modular shoring system designed for installation using only a small crew and mid-sized equipment. The Slide Rail System is an alternative solution when driving sheets is impractical.

- Ideal for crowded sites.
- Installed using the “Dig and Push” method.
- Provides solid support for trench walls and adjacent structures.
- Restoration is lessened because the system is installed from the top down and removed from the bottom up.
- Panels are lifted separately as the trench is backfilled and compacted.
- The system consists of five basic components: Corner Posts, Spreader Posts, Panels, Spreader Beams, and Roller Beams.
- A variety of panel sizes are available.
- Rolling spreader frame permits vertical movement of spreader for greater access and maximum clearance.
- External walers can be used to eliminate Spreader Beams in applications where clear excavations are required (Pictured bottom right).
- Smooth panels are easy to install and remove.
Excavation Shoring

Trenchboxes

Heavy Duty Box

- Traditional “static”, tubular strut box.
- Available panel lengths range from 6’ to 32’.
- Panels available in standard heights of 6’ and 8’.
- Wall thicknesses of 4’, 6’, or 8’.
- Available 4’ Extension Boxes allow you to excavate greater depths - rated up to 42’ in Type C soil.
- Can be equipped with a High-Arch Spreader, allowing easy access for large pipe laying, boring and jacking, etc. (Pictured right.).

Stone Box

The Mabey Stone Box is designed to hold and eliminate the loss of bedding material. The Stone Box has several features for easier handling and safe operation.
- Keep bedding material clean.
- Reduce site congestion.
- Improve project safety.
- Increase efficiency.
- Available in capacities up to 20 cubic yards.

8” diameter Steel Push/Pull Bar

Reinforced corners and joints for years of use

Raised bars on Box interior reduce wear & tear from bucket and bedding material

Continuous 1/2” steel plate on bottom and ends eliminates weld seams and edges

Pulling eyes for easy towing and placement

1/4” steel side plates

Rectangular tube side stiffeners eliminate flanges that could be snagged by excavator buckets
**Manhole Box**

The Mabey Manhole Box is designed to be used alongside Mabey Trenchboxes for quick manhole construction.

- Adjustable and stackable.
- 4’ thick double-wall construction.
- Panels available in 8’, 10’, and 12’ lengths.
- 5’ spreader pipes allow for standard trench widths of 8’, 10’, or 12’.
- Rated up to 25’ deep in Type C soil.
- Optional Cutout Panels allow for easy construction around existing utilities.

**Four-Sided Box**

Mabey’s Four-Sided Box is an excellent solution for a variety of excavation jobs. From manholes and footings to small tanks, it’s the perfect tool for work in holes that require shielding on four sides.
Excavation Shoring

Trench Shields

**Mod Series**
- Modular Trench Shields that stack flat and easily fit in a pick-up truck.
- Flexible corner end-posts enable the shields to be arranged in 2- and 4-sided configurations.
- Panels measure 2’ high and can be stacked to suit a range of excavation depths.
- Light enough for hand assembly.
- Panels are foam filled.

**ATS Series**
- Walls measure 2½’ thick.
- Panels are available in a range of sizes, from 4’ x 8’ to 8’ x 12’.
- Adjustable mechanical struts allow for inside-box dimensions between 18” and 88”.
- Ideal for municipalities and utility companies.
- Lightweight and suitable for handling by loader/backhoe.
- Panels are foam filled.
PowerShore
With rails 16.4’ and 11.15’ long, Mabey’s PowerShore provides you with more working space within the trench. Its smaller profile means less digging up front and less backfilling when the job is finished.
- Lightweight and easy to use.
- Fast and flexible installation.
- Shores trenches anywhere from 3’ to 11’ wide.
- Great for working around utilities.
- Using PowerShore instead of timber shoring can save up to 16” of trench width.
- Greater strut center allows more clearance between struts for excavating and installing pipes.

Vertical Shoring System
Mabey’s Vertical Shoring System is the lightweight hydraulic shoring solution for your trenching needs.
- Can be installed without piling or planks in Type A or B soil.
- Available in four standard heights: 1.5’, 3.5’, 5’ and 7’.
- High-yield aluminum alloy construction allows installation to be completed by hand.
- A range of hydraulic cylinders allows for trench widths from 22” - 110”.
- Fin Form panels available to protect trench sides in loose soils.
- Hinged design allows for fast tear-down and transport.
Site Access

Steel Road Plates
• Available in various sizes.
• All road plates come standard with lifting eye holes for safe and controlled placement.
• Optional anti-skid surface is available.
• Made of high quality, 1” thick A36 certified steel.

<table>
<thead>
<tr>
<th>Size (ft)</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 x 4</td>
<td>1,330</td>
</tr>
<tr>
<td>8 x 8</td>
<td>2,660</td>
</tr>
<tr>
<td>8 x 10</td>
<td>3,325</td>
</tr>
<tr>
<td>8 x 12</td>
<td>3,990</td>
</tr>
<tr>
<td>8 x 16</td>
<td>5,320</td>
</tr>
<tr>
<td>8 x 20</td>
<td>6,650</td>
</tr>
</tbody>
</table>

Trench Crossing
• Units designed to cross wider trenches than Road Plates.
• Spans up to a 13.8 ft. space.
• Custom design and manufacture also available.
• Supports loads up to a 48,000 lb axle load.

<table>
<thead>
<tr>
<th>Size (ft)</th>
<th>Weight (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.8 x 5.65</td>
<td>5,069</td>
</tr>
</tbody>
</table>
Bridging

Mabey can provide you with a temporary, emergency or permanent bridge solution with prefabricated, interchangeable, rectangular panels that pin together to form trusses that support floor beams of varying lengths.
Modular Bridges

Panel Bridging

What is a Modular Panel Bridge?
Mabey’s Modular Panel Bridge systems have been used as fast bridging solutions for nearly 100 years. Mabey’s prefabricated bridge systems are comprised of interchangeable rectangular panels that pin together to form trusses which support floor beams (transoms) of various lengths.

- Steel deck units span between the transoms.
- Transom length increases to carry multiple lanes of traffic.
- Add more panels to span greater distances or carry heavier loads.
- Can be built quickly and with minimal site equipment.
- Constructed of high-strength galvanized steel and manufactured to the highest standards.
- Specialized components can be incorporated to reduce deflection (or bridge sag) common amongst older panel bridge systems.
- Steel checkerplate deck can be paved with asphalt or the customer can specify an anti-skid surface.
- Equipment is available immediately for emergencies.

1 Reinforcing chords can be added to the top and bottom of the truss panels for greater bending resistance.

2 Panels are connected by high-strength pins.

3 Bearings sit atop the abutments and support the corners of the bridge.

4 Standard deck units bolt directly to the transoms; all work being performed from above.
Assembly

The parts for Mabey Modular Bridges are delivered to the site on standard flatbed trucks. Assembly and installation of most bridges can be achieved using the contractor's own crew and readily available equipment such as an excavator or a crane. The four methods of installation are as follows:

- Crane-assisted launch (requires crane access to the far bank);
- Full cantilever launch (Mabey will supply a launch nose);
- Assemble in place (for example, over an existing structure); and
- Assemble to the side and lift into place.

Mabey engineers will work with the contractor to determine the best installation method and will provide an outline procedure for that method.

Capabilities

- Safely carries loads of HS25 and greater.
- Spans up to 265’.
- Available in road widths up to 42’ with standard equipment.
- Mabey bridges carrying Interstate traffic are now widely approved by DOTs around the country.

Temporary Detours & Emergency Use

Mabey Modular Bridges have been successfully used as temporary detours, for emergency situations and as permanent solutions throughout the U.S. since 1985 — and around the world for nearly 100 years. Temporary detour bridges allow contractors to remove and replace the permanent bridge without phased work, significantly reducing on-site time. Using a Mabey bridge allows you to minimize traffic disruption while keeping your workers safely out of harm’s way. Mabey has supplied bridges after hurricanes, reconnecting communities that were isolated by washed out roads and bridges. Many DOTs stock Mabey bridging equipment as part of their emergency response plan.
Modular Bridges

Permanent Structures
Mabey Modular Bridges are currently being used as permanent structures on secondary roads throughout the U.S. All components are galvanized for low maintenance and a long life. Installation is simple and abutment design is easily performed by local engineers.

Pedestrian Bridges
Mabey Modular Bridges are readily adapted for pedestrian traffic. All of the advantages of the vehicular bridges, such as pre-engineered design, ease of installation, and galvanized surfaces, also apply to pedestrian bridge applications. Guardrails and footwalks are available.

Utility Bridges
- For the support of pipes, cables, and other utilities.
- Can be installed by utility contractors using their own personnel.
- All components are galvanized for low maintenance and a long life.

Rapid Bridges
- Pre-engineered, modular deck system provides a lightweight steel bridging system — fully pre-fabricated, galvanised and quick to install.
- The main structural connections use preloaded bolts suitable for permanent or temporary applications.
- Suitable for multi-lane applications.
- Span lengths up to 100’.


Modular Towers

The panels that form the trusses in Mabey Modular Bridges can also be assembled to provide a strong and stable tower system. Heights over 100 feet are achievable without reduction in capacity.

Mabey Logistic Support Bridge

The Mabey Modular Bridge System has been adapted to produce the Mabey Logistic Support Bridge (LSB) for military use. The Mabey LSB can be installed by hand and can carry loads up to MLC110(W). The full LSB Module is supplied with everything needed to produce one 200 foot bridge or two 130 foot bridges, including ramps.

Delta Bridge

For roads with a higher traffic count, Mabey offers the Delta Bridge. The Mabey Delta Bridge is a modular bridge system which is fully bolted to provide a more conventional through-truss bridge.
Mabey’s “off-the-shelf” solution for short span applications, the QuickBridge® is a proprietary steel bridge system based on fixed span lengths. The units can be lifted directly from the delivery vehicle onto pre-prepared foundations, allowing for installation in minutes.

- For temporary or permanent applications.
- Units come in 20’, 30’ and 40’ lengths. Can be used in single or multi-span roles for bridges, ramps or platforms.
- Available in standard width of 5.65’. For wider bridges, simply add more units (Illustrated right).
- For public highway or site use.
- Can be used as a foot bridge.
- Complete with anti-skid surfacing.
- Designed to meet AASHTO HS25-44 load specifications.
- Capable of higher loads in off-road situations.
- Pedestrian and vehicular railings are available.

### QuickBridge® Properties

<table>
<thead>
<tr>
<th>Length (ft)</th>
<th>Width (ft)</th>
<th>Weight (lbs)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>5.65</td>
<td>6,030</td>
</tr>
<tr>
<td>30</td>
<td>5.65</td>
<td>11,050</td>
</tr>
<tr>
<td>40</td>
<td>5.65</td>
<td>17,050</td>
</tr>
</tbody>
</table>

*Weight without guardrails.
Structural Shoring

When your project includes bridge repairs, building construction, demolition, or other heavy propping, we can provide the right design and equipment for the job.
Structural Shoring

Mat 75/125

Mat 75/125 has long been established as an industry standard for the temporary support of heavy loads. Its versatility makes it perfect for:

• Heavy-duty propping.
• Temporary bridge piers.
• Access platforms.
• Capable of supporting up to 165 kips per leg.
• Basic components consist of column units in standard lengths ranging from 0.5’ to 12’.
• Standard bracing members enable the columns to be set at 5’ and 10’ centers.
• Cap and ground beams are available.
• All connections are bolted - no welding required.
• Screw adjustments allow for fine-tuned height adjustment.
• An extensive range of ancillary equipment is available.
Mass 25

Mabey’s modular Mass 25 light duty propping system offers a 56,000 lb capacity per leg with a compact 7" square section. Components can be used as individual shores or built into towers and trusses using standard components.

- Features standard angle, truss, and frame bracing that connects directly to the flanges of the prop units.
- Mass 25 Grillage Beams allow loads to be spread into groups of props or can provide base spreaders, where appropriate.
- Adjustable ends, pivot connectors and base plates are available as standard items and enhance the flexibility of the Mass 25 range.

System 160

With its high strength and low weight, System 160 can be used for the most demanding propping, needling and façade retention applications.

- High load capacities substantially lower the number of components required, reducing assembly and disassembly times.
- A full range of accessories allows greater versatility in applications.
- A variety of extensions and screw assemblies create a perfect match to your height requirements.
Temporary Roadways

Mabey’s temporary roadways are designed to support heavy-duty vehicles and equipment, in any soil condition, for remediation, turnarounds, workpads and staging areas, golf courses, festivals and other events.
Temporary Roadways

Get your heavy equipment out of the mud and water with Mabey's DURA-BASE® Composite Mats. The prefabricated interlocking matting system gives your equipment a solid, reliable work surface because it's unique design distributes weight evenly across the roadway. The 8' x 14' mats ship on a standard flatbed truck and can be placed with an off-road forklift. A single truckload can be used to build a 14' road up to 250' long.

- Build a temporary road without laying rock or stone.
- Reduce dust.
- Protect environmentally sensitive areas.
- Preserve your equipment.
- Quickly restore your jobsite to pre-project conditions.
- Length: 14'.
- Width: 8'.
- Effective Size: 13' x 7'.
- Weight: 1,050 lbs per mat.

DURA-BASE® is a registered trademark of Newpark, manufacturer of custom-engineered single-piece, sealed construction composite mats.
Power companies and crane operators alike have discovered the benefits of using this system to work on utility lines in designated wetlands. Our roadways have been used to successfully transport 120-ton cranes and transmission poles weighing 50,000 lbs in standing water. Our roadways have also been used by major colleges, universities, and stadiums to protect their fields while installing stages for graduations, concerts, and other events.

Mabey’s DURA-BASE® mats work in a wide range of conditions and applications including:

- Mud
- Sand
- Marshes
- Wetlands
- Coastal areas
- Tidal conditions with water currents
- Environmentally-sensitive areas
- Utility Work
- Waste Management
- Colleges and Universities
- Landscaping
- Events & Festivals
- Stadiums & Fields
- Golf Courses & Tournaments
- Parkland
- And even in Washington, D.C. on the lawn of the National Mall

DURA-BASE® is a registered trademark of Newpark, manufacturer of custom-engineered single-piece, sealed construction composite mats.
Installation Services

Could your project benefit from our professional installation team?

Mabey’s specialized matting installation crews have expertise in quickly and efficiently building temporary roads in all of the best and worst of conditions. Mabey has successfully configured and installed temporary roadway and ground protection systems for utilities, construction site access, environmental protection and remediation, golf courses, stadiums and events.

Our knowledgeable crews have the experience to keep your projects running smoothly. We have developed the methods and techniques to efficiently install, layer, reposition, leapfrog and remove the heavy matting system so our customers’ crews can safely and quickly access their job site and stay focused on their actual project work. Time is money – let our matting crews handle the mats so you can get to work.
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