

TRANSIT PRODUCTS



YOUR TOTAL TRACK MANAGEMENT COMPANY™

LBFoster®



L.B. FOSTER TRANSIT PRODUCTS

L.B. Foster provides transit solutions that can be customized to meet your specific requirements and schedule. Our products and services are in use worldwide in heavy rail and light rail transit systems.

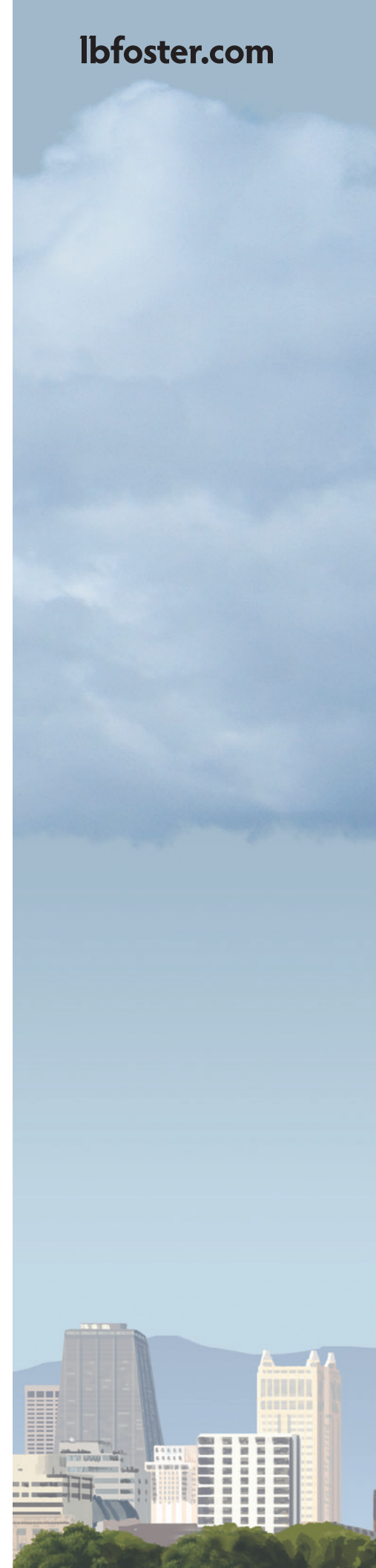
We offer direct fixation fastener and contact rail systems. Our bonded and non-bonded fasteners provide the best balance for noise and vibration dampening, electrical isolation and ease of installation. L.B. Foster's systems can be utilized in turnouts, crossings, expansion joints, restraining rails and many other applications. Our contact rail systems can include steel, aluminum or steel/aluminum clad rails and be offered as complete installation packages with insulators, coverboard systems, end approaches, anchors and other appurtenances.

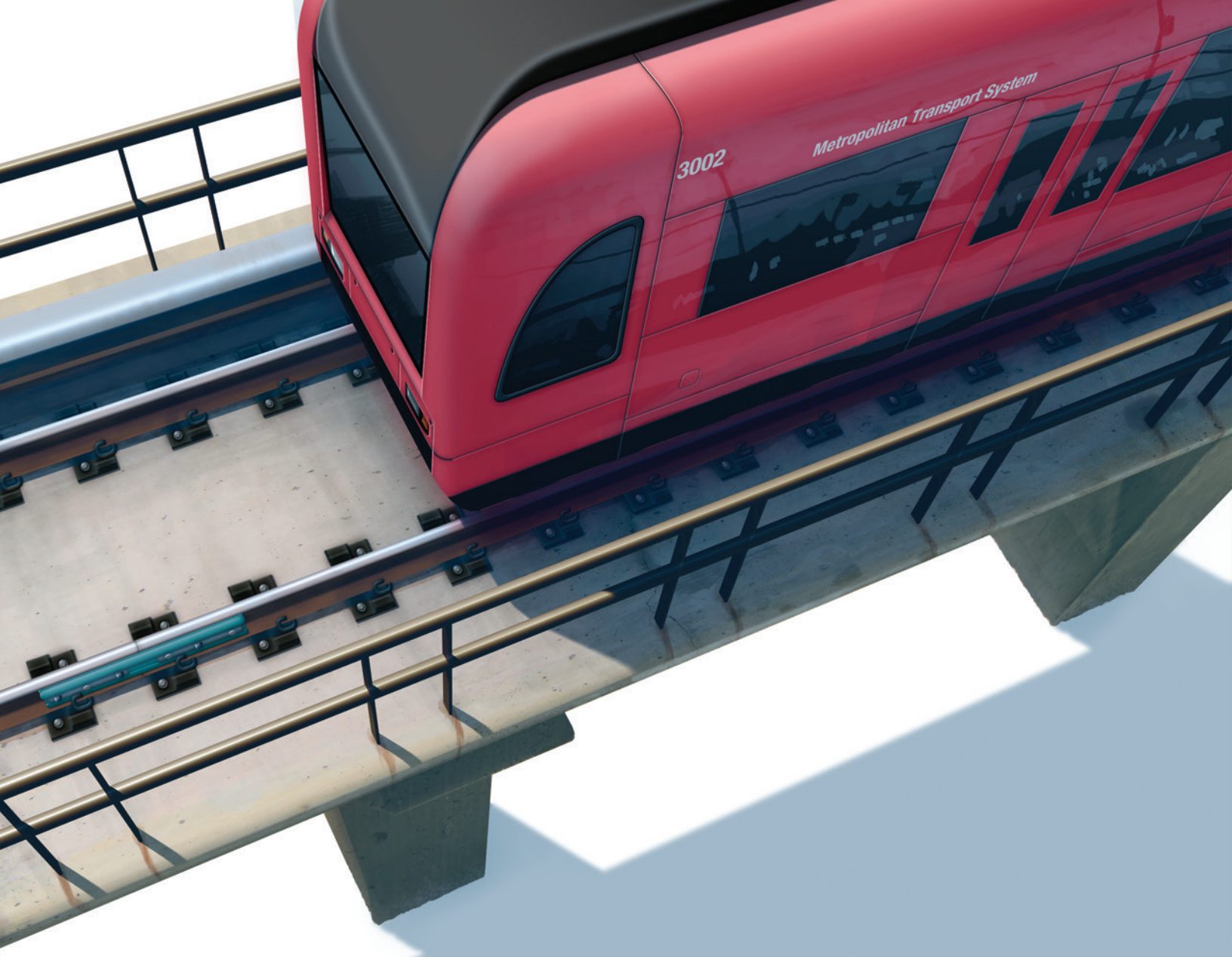
L.B. Foster provides embedded track systems for concrete, asphalt or grass applications. Our rail boot systems offer resilient solutions to protect track structure and provide electrical isolation and noise/vibration dampening. L.B. Foster has a protective boot to fit any rail section and the accessories to support your custom solution. Our full line of accessories includes steel or composite leveling beams, splice cuffs, rail clip systems, fabricated steel plates and miscellaneous installation material.

L.B. Foster Engineering Expertise

L.B. Foster can also be counted on to engineer and test custom solutions specific to your own unique requirements. Our innovative Transit Products R&D facility in Suwanee, GA is state-of-the-art rail products lab designed specifically for the transit market. The laboratory's trained technicians can perform static, fatigue, electrical and environmental tests to simulate application conditions.

Our extensive R&D capacity allows us to speed up product cycles to serve you quickly without compromising product integrity. L.B. Foster manufacturing and product development facilities are ISO 9001:2008 registered and we take pride in providing superior quality, unparalleled expertise and reliable customer service for the transit industry. Our products are currently operating in most transit rail lines in North America and select systems worldwide. We welcome the opportunity to assist you with your next transit project.





OUR TRANSIT PRODUCTS ARE HARD AT WORK

MARTA, Baltimore MTA, MBTA, CTA, RTA, LAMTA, MDC, NYCT, PATH, SEPTA, BART, Tren Urbano, WMATA, Metrovalencia, Taipei Metro, , TTC, C-Train, ETS, SkyTrain, MUNI, MAX, Phoenix METRO, San Diego MTS, SEPTA, MetroLink, DART, Denver RTD, Sacramento RT, TRAX, METROrail, Metro Transit, New Jersey Transit, The T, Buffalo MetroRail, GCRTA, Link Light Rail, Tide Light Rail

LBFoster®

DIRECT FIXATION FASTENERS

Standard Direct Fixation Fasteners

L.B. Foster fastener systems are installed on rail transit systems, mainline passenger lines and industrial railroads throughout North America. Our field-proven fastening systems offer unique advantages to trackwork engineers and maintenance personnel. L.B. Foster fasteners are designed to be easy to install, inexpensive to maintain, corrosion resistant and quiet under load. These cost-effective systems are designed to meet a wide range of performance specifications.

Performance:

- High or low longitudinal restraint to accommodate various system requirements
- Wide range of vertical spring rate characteristics between 60,000 lbs/ inch - 300,000 lbs/inch to encompass a multitude of noise/vibration requirements.
- Rigid, resilient or captive rail clip design attaches the rail to the fastener body
- Direct installation capability to concrete slab, wood ties and steel ties
- Outstanding electrical isolation for control of stray current flow

Special Trackwork Direct Fixation Fasteners

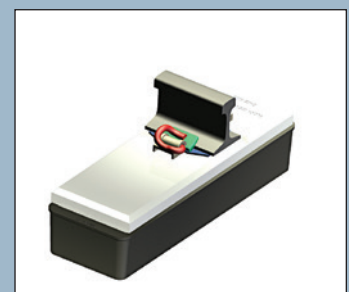
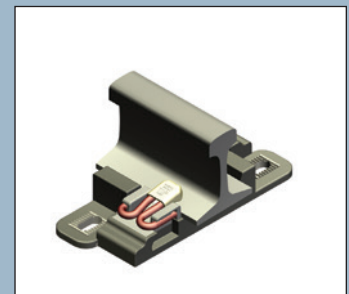
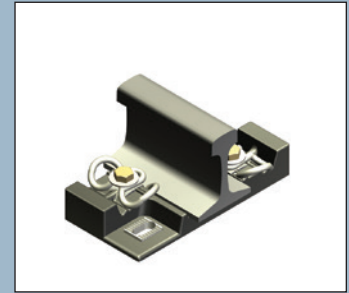
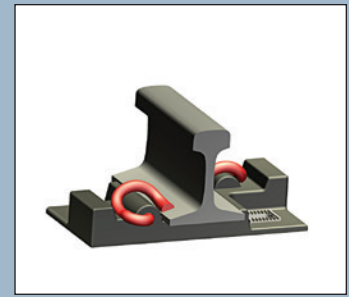
L.B. Foster has been manufacturing direct fixation fasteners for special trackwork applications for more than 35 years. Our fasteners are designed to meet our customer's toughest requirements for stray current control, noise reduction and vibration dampening. L.B. Foster's field-proven fasteners install special track products easily and effectively to a variety of supporting surfaces. Our bonded special trackwork system has adjustable features that simplify installation and maintenance. L.B. Foster special trackwork direct fixation fasteners are in use worldwide by leading rail services.

Performance:

- Longitudinal rail restraints between a high of 3,500 pounds or near zero lateral restraint
- Vertical and lateral stiffness spring rates to meet light and heavy vehicle wheel load and noise/vibration requirements
- Rigid or resilient rail clips to attach the rail to the fastener body
- Direct installation capability to concrete surface, wood ties or steel structures

Resilient Tie Blocks

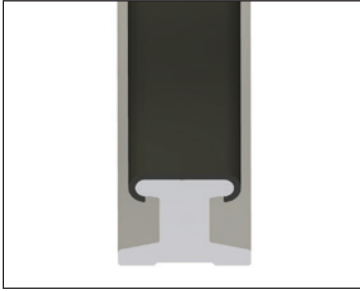
The Resilient Tie Block system uses the mass of the concrete block and a performance pad to dampen rail borne vibrations. These items are sheathed by a hard rubber boot that also provides the customer with high lateral restraint. This type of system has been supplied by L.B. Foster since the 1980s.





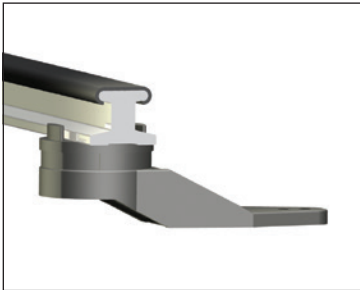
Contact Rail Support Insulators

L.B. Foster offers a variety of fiberglass and porcelain insulators for all types of transit service. We can provide quality stock insulators or develop products specific to our customer's application for top-running, under-running or side-running contact rail systems.



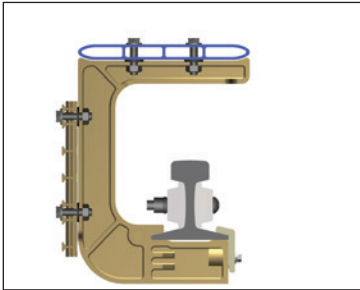
Contact Rails

L.B. Foster can provide the contact rail system that best fits our customer's requirements. Our steel composite contact rail design has been used by most North American heavy rail transit systems for more than 30 years. Our aluminum rail designs have also served the transit industry for decades. We can provide a variety of styles and profiles to suit your needs.



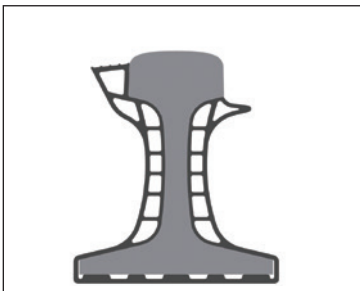
Hybrid Tie Extension

LB Foster's Hybrid Tie Extension supports conductor rails, while combining several components into a simple assembly. The Hybrid Tie Extension eases installation and reduces component inventory, while still being fully compatible with existing systems. It can be customized to for various anchor locations and insulator heights, based upon the agency specifications.



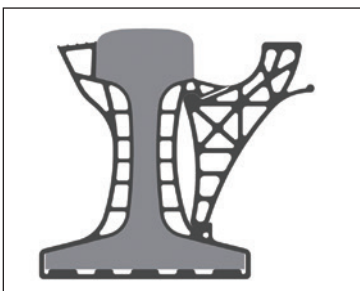
Third Rail Bracket Systems

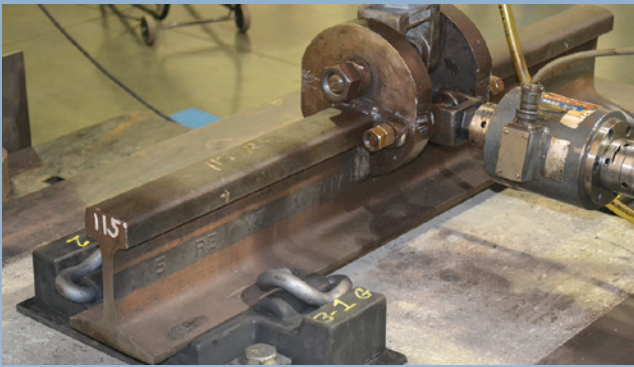
L.B. Foster offers robust coverboard bracket systems made from electrical isolating fiberglass material that is proven to withstand hostile environment. This material and the design of the brackets hold the coverboards in place under heavy static and impact loads. They also electrically isolate the contact power rail from the ground. We have brackets for under/over/side running contact rail systems. We have strong coverboard bracket systems that are made from electrical isolating fiberglass material that is proven to withstand a hostile environment. This material and the design of the brackets are such that they will hold the coverboard in place under heavy static and impact loads.



Embedded Track Products

L.B. Foster rail boot systems protect track structure and provide electrical isolation and noise/vibration dampening. This product has been designed for easy installation, allowing the contractor to reduce material waste and labor cost. Rail boot configurations are available for a variety of standard rail sections. L.B. Foster can also provide custom solutions for unique applications.





ENGINEERING SERVICES

Transit Product's engineering and product development capabilities may be summarized as follows:

- Product design and development
- Product evaluation and testing
- Comprehensive mechanical testing
- In-house 3D modeling and finite element analysis
- Ongoing applied research on track components and new materials for track applications
- Custom designing of products from concept to final designs

TESTING SERVICES

The Transit Products testing laboratory was developed specifically for the needs of the transit and railroad industries. We serve transit agencies, system designers, transit system contractors and suppliers of products used in transit systems. The laboratory can perform a wide range of product tests through static loading, structural fatigue, electrical and environmental simulations.

Our Transit Products' test engineers study your design verification requirements and develop a test plan to meet your needs. Employing state-of-the-art equipment, our trained personnel can help you determine the durability and effectiveness of components or systems under simulated field conditions. Structural testing facilities include closed loop force control systems that can mimic static and dynamic cyclic loading.

CASE STUDY: HURRICANE COVERBOARD

Miami Dade Transit was faced with a coverboard problem post Hurricane Wilma. They needed a coverboard system to be robust enough to carry a passenger to safety and aerodynamic enough to cut through hurricane force winds. The historical shape of the coverboard acts as a sail in the face of a hurricane, which exponential increases the force on the bracket. The challenge was to come up with radically new design for the coverboard and couple that with a more robust coverboard bracket. LB Foster's team of engineers used their historical knowledge of coverboard systems along with Finite Element Modeling to come up with a Foster Tough design on an expedited timeline. The design was successfully proven out at LockHeed Martins' Wind tunnel, which is used for all types of high performance industries.

L.B. FOSTER RAIL GROUP

L.B. Foster is a leading, global supplier and manufacturer of quality railroad products for transit, mainline, mining, port and industrial markets. Our full line of railroad products includes new rail, crane rail, crane conductor systems, insulated rail joints, rail lubrication systems, rail monitoring systems, transit rail systems, trackwork materials, rapid response/emergency track panels and professional rail project management services.