

*L. B. Foster Company*  
*Transit Products Division*  
*Direct Fixation Rail Fastener*  
*F25 Series*

The F25 series direct fixation fastener has been designed, laboratory tested and supplied to Metro-North Railroad. In addition, the F25 series has been supplied to Tri-County Commuter Rail for the South Florida corridor, RTD Denver, AMTRAK, and various other 6-inch rail base installations. This product provides the following functions:

- ◆ Secures 6-inch rail base directly to a supporting surface
- ◆ Stabilizes vertical and lateral rail movement
- ◆ Controls longitudinal rail movement
- ◆ Provides track noise and vibration dampening
- ◆ Electrically isolates rail from track bed
- ◆ Utilizes non threaded rail hold down spring type clips

The Model F25 series has completed extensive Qualification and Production testing to demonstrate the fastener's response to various load environments and electrical applications. Based on the results of these tests, the F25 series Direct Fixation Rail Fastener provides the following fundamental performance characteristics:

- ◆ Dynamic vertical stiffness of approximately 200,000 to 300,000 pounds per inch deflection, determined by simulated vertical wheel loading of 18,700 pounds per fastener at a rate of approximately one loading per second. This dynamic vertical spring rate was determined during simultaneous lateral loading of approximately 12,400 pounds per fastener respectively.
- ◆ With dynamic vertical and lateral forces of approximately 18,700 and 12,400 pounds respectively, railhead movement is approximately 1/5 inch laterally.
- ◆ Allows continuous longitudinal "slippage" of rail at approximately 2,000 to 3,000 pounds longitudinal force per fastener body.

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- ◆ Withstands repeated longitudinal rail slippage of approximately +/- 1/8 inch for greater than 1,000,000 cycles without damage.
- ◆ Withstands a minimum of 15,000 volts (DC) per fastener body in a clean and dry test environment without material breakdown or electrical flashover.
- ◆ Provides individual fastener body electrical resistance properties of greater than 1 million ohms (wet) and 10 million ohms (dry) at 500 volts (DC). Impedance at 50 Volts (RMS) and 10,000 Hertz is greater than 10,000 ohms.
- ◆ Fastener body resists 3,000,000 cycles of repeated loading at the following magnitudes:
  - Maximum vertical loads at -600 to +16,400 pounds with simultaneous maximum lateral loads at -300 to +6,300 pounds for 98% of load cycles.
  - Maximum vertical loads at -700 to +18,700 pounds with simultaneous maximum lateral loads at -600 to +12,400 pounds for 1% of load cycles.
  - Maximum vertical loads at -500 to +14,200 pounds with simultaneous maximum lateral loads at -900 to +9,600 pounds for 1% of load cycles.
- ◆ Subjected to 1000 hrs of corrosion testing per ASTM B117 and exhibited minimal corrosive effects.

The above performance characteristics are provided for informational purpose only and are based solely on laboratory environment testing. Actual field performances may vary from those stated above.

Variations to the Model F25 series can be made to accommodate various custom requirements. For more information concerning this Direct Fixation Fastener model or other product needs, please call or contact us at [lbfooster.com](http://lbfooster.com) or call us in our Suwanee, Georgia office at (678) 926-5200.