



# L.B. Foster Company

## Direct Fixation Rail Fastener Model F25R0

The F25R0 Direct Fixation Fastener has been designed, laboratory-tested, and supplied to Metro-North Railroad. In addition, the F25R0 has been supplied to Tri-County Commuter Rail for the South Florida corridor 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 clip type clips.

The Model F25R0 has completed extensive Design 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 F25R0 Direct Fixation Fastener provides the following fundamental performance characteristics:

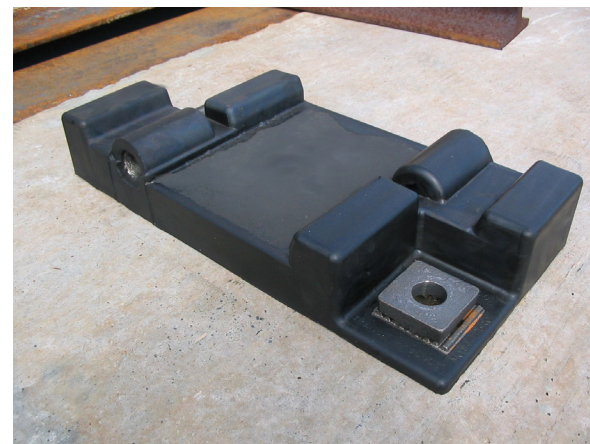
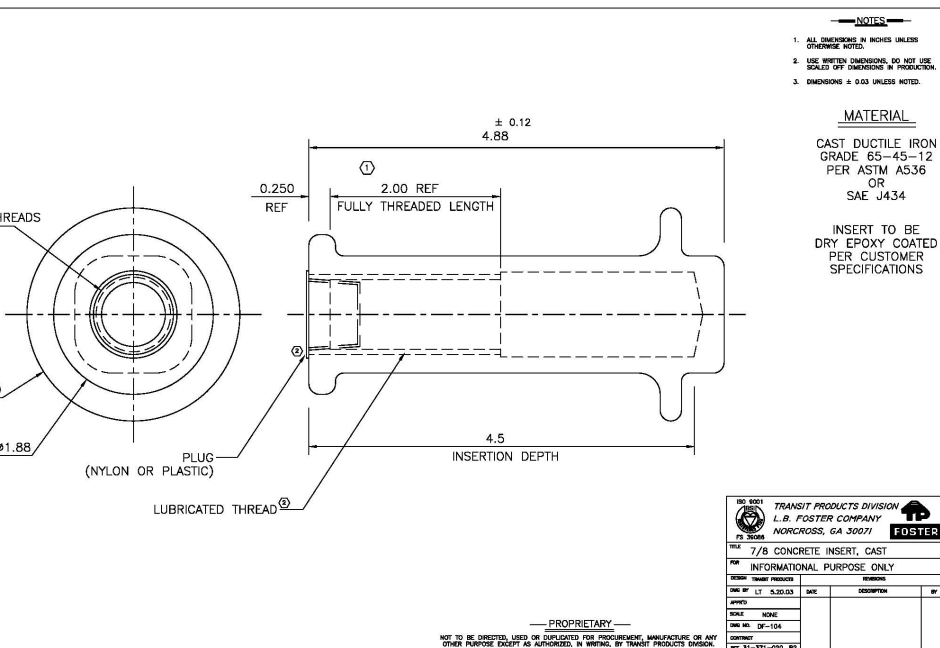
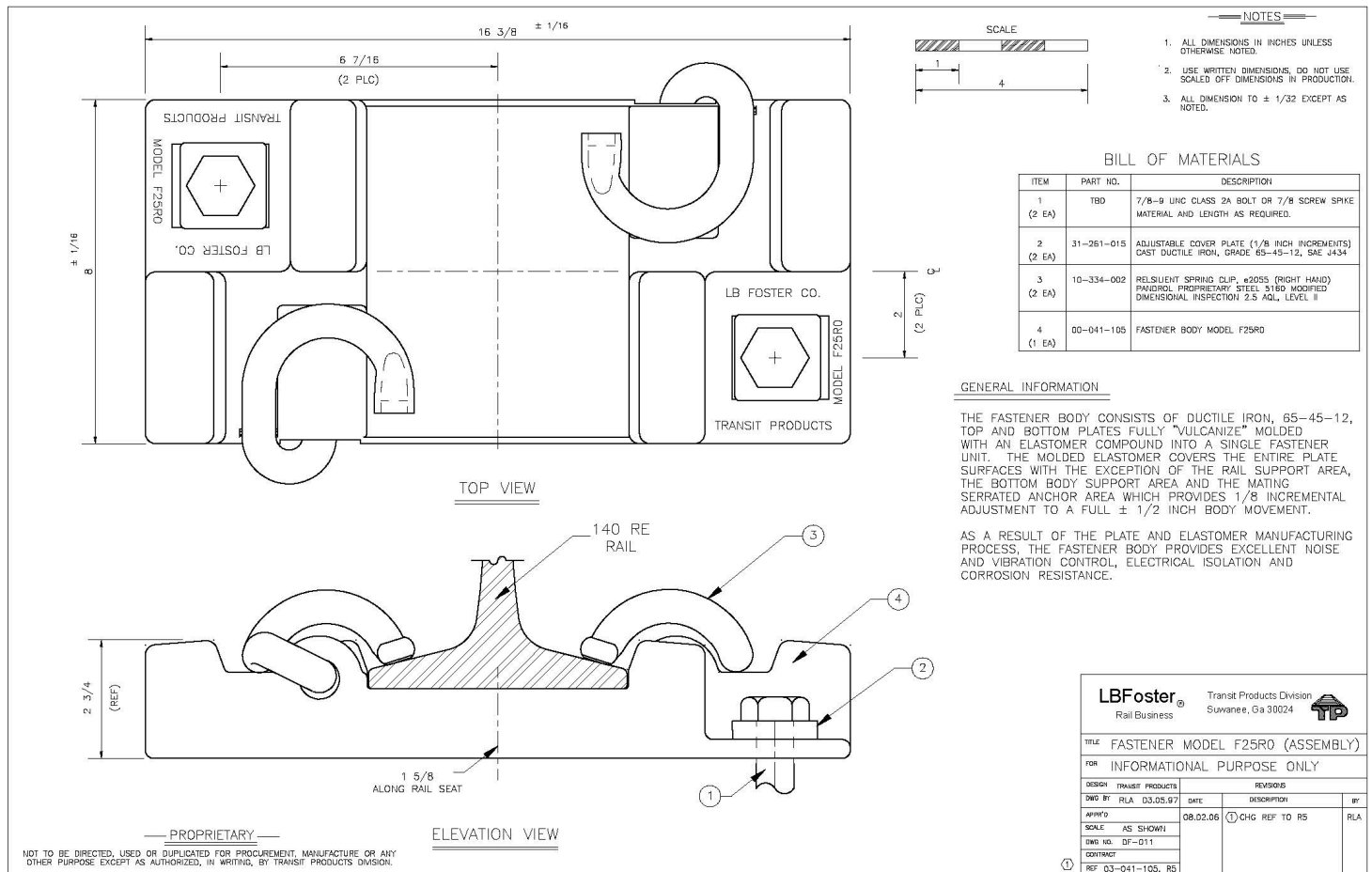
- > Dynamic vertical stiffness of approximately 275,000 to 300,000 pounds per inch deflection, determined by simulated vertical wheel loading of 18,500 pounds per fastener at a rate of approximately one loading per second. This dynamic vertical spring rate was determined during simultaneous lateral loading of approximately 12,000 pounds per fastener respectively.
- > With dynamic vertical and lateral forces of approximately 18,500 and 12,000 pounds respectively, railhead movement is approximately 1/8 inch laterally.
- > Allows continuous longitudinal "slippage" of rail at approximately 2,000 to 3,000 pounds longitudinal force per fastener body.
- > Withstands repeated longitudinal fastener body loading to approximately +/- 1,700 pounds for greater than 1,000,000 cycles without damage. Also withstands additional repeated longitudinal deflections of +/- 1/2 inch for 2,000 cycles.
- > 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 -550 to +16,250 pounds with simultaneous maximum lateral loads at -400 to +6,300 pounds for 98% of load cycles.
  - > Maximum vertical loads at -650 to +18,700 pounds with simultaneous maximum lateral loads at -450 to +12,400 pounds for 1% of load cycles.
  - > Maximum vertical loads at -500 to +14,200 pounds with simultaneous maximum lateral loads at -350 to +9,550 pounds for 1% of load cycles.
- > Subjected to 1,000 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 Model F25R0 can be made to accommodate various custom requirements. For more information concerning this Direct Fixation Fastener model or other product needs, please contact us at [www.lbfoster.com](http://www.lbfoster.com) or call us in our Suwanee, Georgia office at (678) 714-6730.

# DATASHEET

## Direct Fixation Rail Fastener – Model F25R0



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