



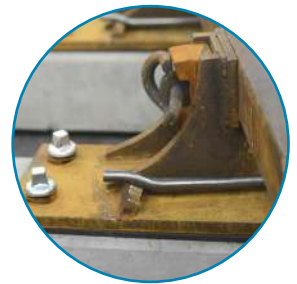
# SafeGuard Guard Rail Fastener

US Patent No.: US 11,168,446 B2

## Description

Many conventional guard rail fastening systems employ an e-clip under the guard bar, which requires an Installation employee to swing a hammer in a confined space. This places the employee's hand directly in the line of fire, and unless the hammer strike fully engages the e-clip, risks "springing" the clip with enough force to strike nearby employees. The SafeGuard system removes this risk by eliminating the e-clip fastener under the guard bar:

- » Safe and simple installation
- » No need to put hand in line of fire
- » No risk of projectile fasteners
- » No hammer or special tools required at all



## Proven Performance with Reduced Injury Risk

- » Toe load equivalent to existing fastener designs
- » Passed extensive fatigue tests (> 40 million cycles)
- » Thousands installed in Class I service
- » “Buy America” compliant



SafeGuard Guard Rail Fastener  
20 May 2022

**voestalpine Railway Systems Nortrak**  
[www.voestalpine.com/nortrak](http://www.voestalpine.com/nortrak)

**voestalpine**

ONE STEP AHEAD.