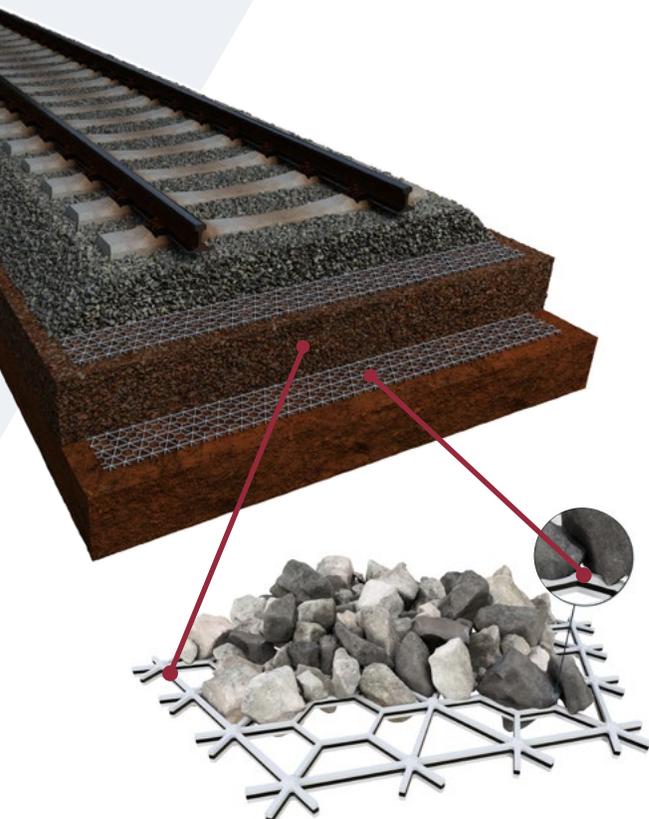


Revolutionizing Railway Ballast & Sub-Ballast Stabilization

Stability, durability, and economy with Tensar Geogrids

Designing cost-effective, higher performing, resilient railway tracks is possible with Tensar geogrids. Tensar geogrids stabilize the ballast and sub-ballast trackbed structure and work to distribute the imposed loads more efficiently over the underlying area. This leads to a reduction in the required layer thickness while still meeting the required factor of safety. The geogrid also limits lateral spread and thereby minimizes track settlement. *What does that mean for you?*



UP FRONT CONSTRUCTION SAVINGS

By significantly reducing the required trackbed thickness Tensar geogrids can save up to \$30,000 per linear mile of track. Since Tensar geogrids can be installed directly over existing weak soils, the costs associated with excavation, disposal, and replacement or chemical treatment with long curing times can be eliminated. With shallower excavation, the potential costs associated with the relocation of utilities can often be eliminated as well.

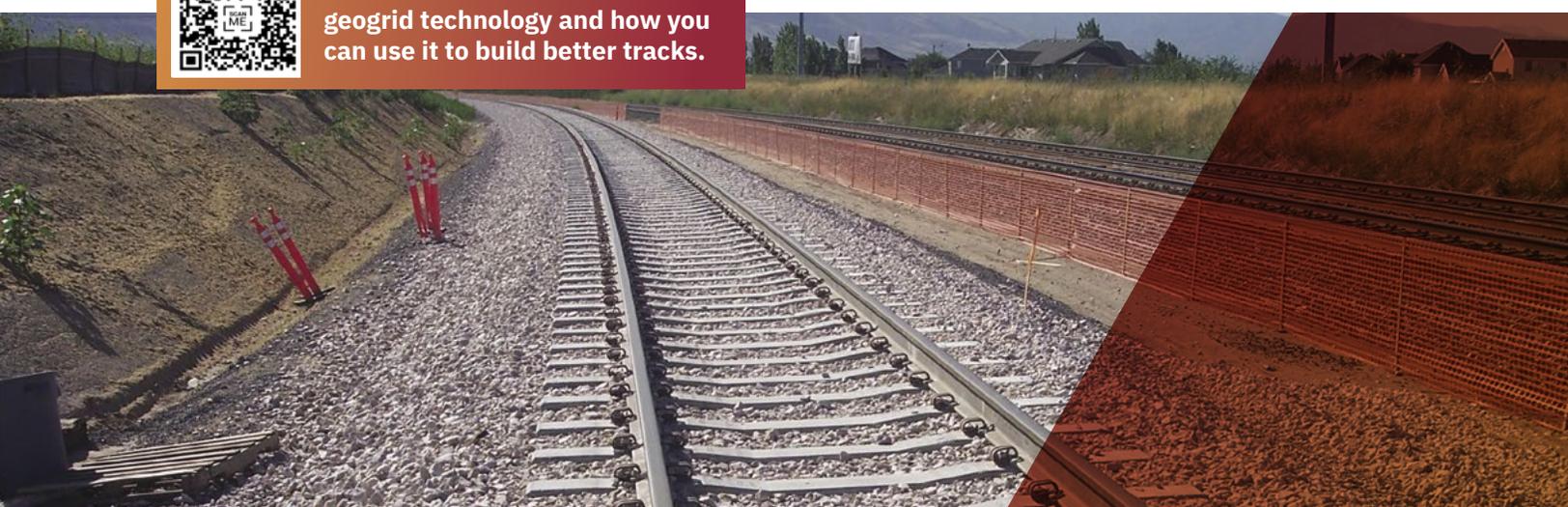


LIFE CYCLE COST SAVINGS

Since track maintenance is a significant and ongoing expense, lifecycle cost savings are an additional benefit of using Tensar geogrids. Over the long term, geogrids preserve the integrity of the railway structure by confining the ballast and sub-ballast layers and preventing lateral spread. This typically extends the period between maintenance operations by a factor of three to five times. Finally, in reducing the deflection of the trackbed during loading, Tensar geogrids extend the life of mechanical track components including rails, ties, insulated joints, turnouts and diamonds.



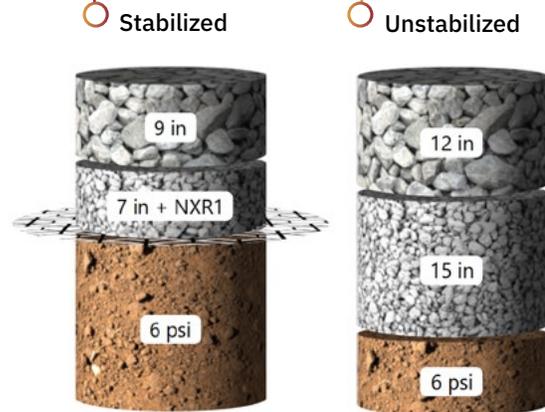
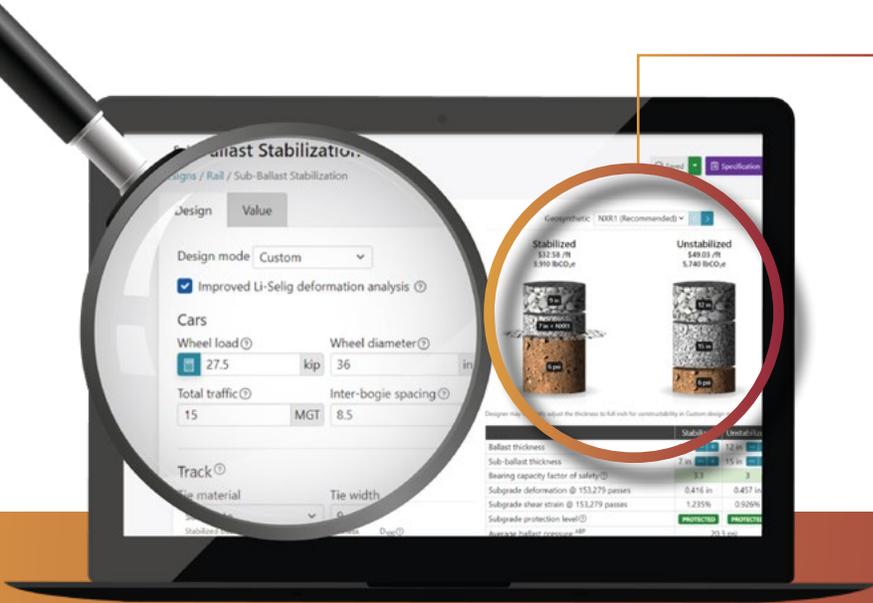
Learn more about Tensar geogrid technology and how you can use it to build better tracks.



Introducing the New Sub-Ballast Design Module in Tensar+ Software



Tensar+ Software now offers the new Sub-Ballast Stabilization design module for railway applications. The design module allows you to evaluate both unstabilized and a geogrid mechanically stabilized tracked beds and compare their performance instantly. Backed by rigorous, full-scale testing, Tensar+ incorporates industry-accepted design methodologies. It also implements methods used by industry estimators to perform material takeoffs across various soil conditions and railway track geometries. This allows you to quickly analyze a range of scenarios and offer your clients the most cost-effective and reliable solution for their specific site challenges.



Scan this QR code or visit TensarPlus.com to get started.

With Tensar+ Rail Module you can:

- Perform deformation analysis using Li-Selig modified method and calculate the subgrade protection level.
- Easily compare geogrid-stabilized design alternatives to determine if the sub-ballast layer can be eliminated or if including a geotextile in the section is necessary.
- Determine initial and life cycle cost savings, time savings, and environmental impact reduction using Tensar geogrids.
- Generate robust project performance specifications and generate high quality visuals to share with clients
- Access product data, research reports, and training resources directly in Tensar+
- Improve collaboration by sharing your designs with your team and collaborators directly from Tensar+