

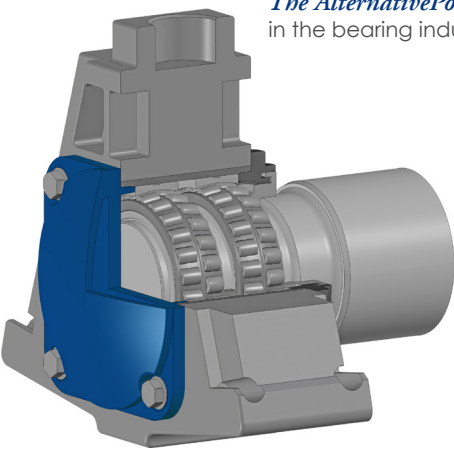
ROLLING BEARINGS FOR RAILWAY APPLICATIONS

BUT
BEARINGS UNIVERSAL TECH



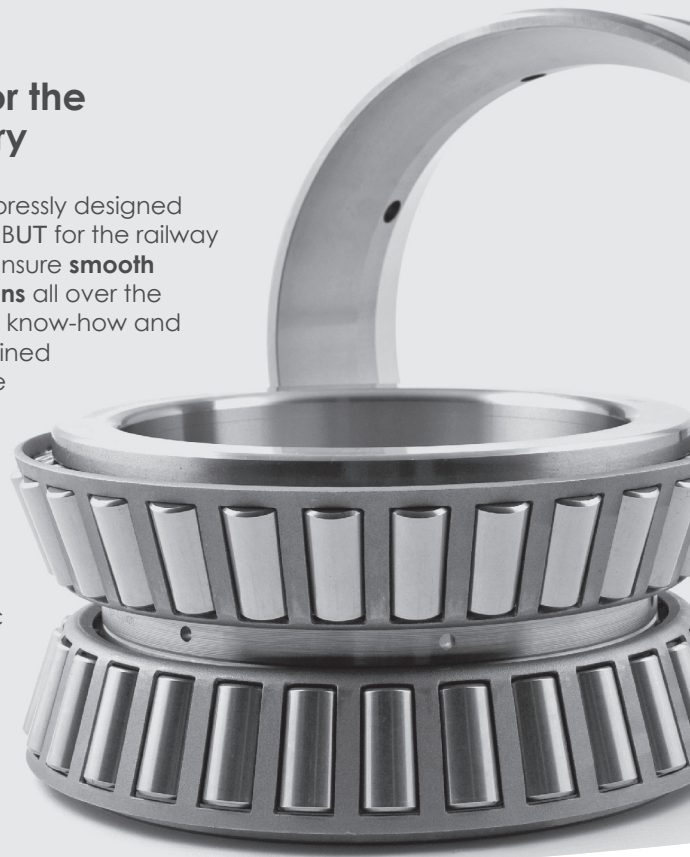
BUT: the UK Premium-Class Bearing Manufacturer

The BUT Bearing Industries Group is the UK manufacturing organization operating in the bearing industry for over 110 years, with a monthly production capacity exceeding 350 tons of machined steel. The experience gained over the years provides BUT with the know-how and expertise necessary for the development and manufacture of technological industrial bearings up to 1925 mm outer diameter. BUT offers reliable cost-effective solutions, with extreme operational flexibility, leading-edge service, huge stock availability, short delivery time and the quality typical of a consistent premium-class bearing source. With a worldwide distribution network and exports to more than 50 countries, BUT is globally recognized as *"The Alternative Power"* in the bearing industry.



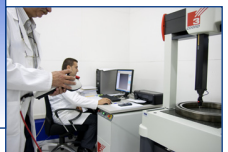
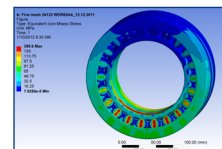
BUT Bearings for the Railway Industry

The rolling bearings expressly designed and manufactured by BUT for the railway industry will help you ensure **smooth transportation operations** all over the world. The engineering know-how and manufacturing skills gained over time as well as the **international approval** from many key customers of the sector have made of BUT a well-known **reliable source** of top quality products and services for the specific needs of the railway players.



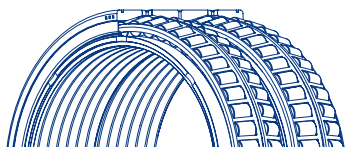
Engineering and Manufacturing Solutions at Your Service!

- Technical consultancy
- Application analysis and feasibility study
- Engineering and design
- Advanced calculations
- FEM and semi-analytical simulations
- Project co-engineering
- Product customization and optimization
- Advanced and flexible manufacturing technology
- Qualified on-field assistance



BUT Europe SA
Executive Headquarters and Technological Center

ENGINEERED IN UK
TECHNOLOGICAL BEARINGS



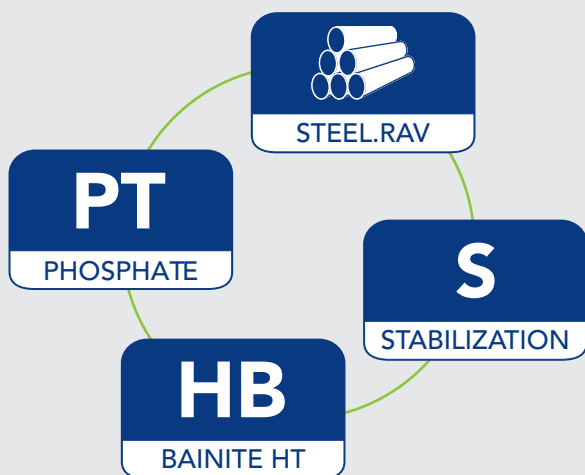
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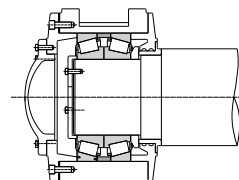


Special Technical Features for BUT Railway Bearings

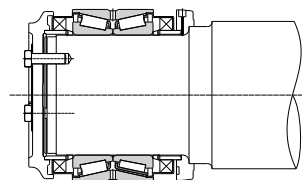
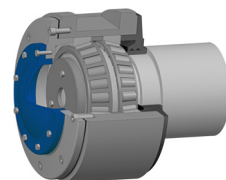
- **High cleanliness steels** (BUT RAV protocol) for extended service life
- **BUT Phosphate Treatment (PT)** for excellent friction, corrosion and wear resistance
- **BUT Stabilizing Treatment (S)** to avoid bearing dimensional changes due to temperature increase during operation
- **BUT Isothermal Bainite Heat Treatment (HB)** to remarkably reduce the incidence of cracking



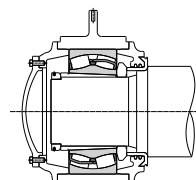
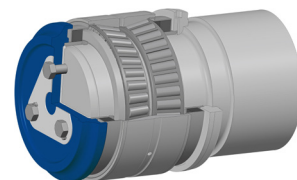
Examples of BUT Railway Bearing Arrangements



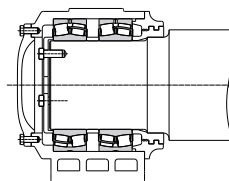
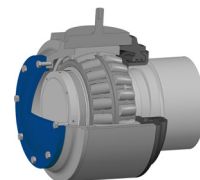
Double row taper roller bearings
in face-to-face arrangement (TDI configuration)



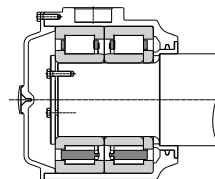
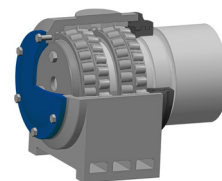
Double row taper roller bearings
in back-to-back arrangement (TDO configuration)



Single spherical roller bearings



Paired spherical roller bearings



Paired cylindrical roller bearings (NJW+NJPW configuration)

