

British Steel



Building Stronger Railways with British Steel

Specifying the right product for your rail project can make all the difference between trouble-free, longer service life, and a poor-performing maintenance-heavy track.

That's why we work closely with rail customers to meet the challenges of higher traffic volumes, heavier axle loads, higher train speeds and shorter possession times.

We're delivering products and services that directly address our customers' needs for more railway life with fewer maintenance requirements:

Zinoco®

Our award-winning Zinoco rail corrosion protection system is a revolutionary product that can withstand some of the harshest corrosive environments such as coastal lines, level crossings and

wet tunnels. Rail in these areas can become contaminated with salt, water, minerals and biological matter so needs a tough, durable solution, which Zinoco provides.

Significant investment in new equipment has allowed us to develop the world's first ultra-long corrosion-protected rail in a single 108m piece – or 216m with a single factory weld.

The new and improved Zinoco is also the world's first rail with a super-

hydrophobic finish that repels water and dirt. Available in any length from 9m to 216m, Zinoco offers 5 to 10 times life extension where corrosion is the main degradation mechanism.

Zinoco achieves the highest levels of durability through excellent impact and abrasion resistance, and also provides sacrificial cathodic protection – so the protection of the metal is guaranteed, even when the zinc layer is damaged.

Suitable for any track environment, including third and fourth rail areas, Zinoco is available on any grade and any profile. And it's the only rail corrosion protection system approved for use across all Network Rail infrastructure.

HP335

HP335 is our award-winning high-performance premium rail grade and is our most wear-resistant rail. Its patented composition and uniform through-hardness is metallurgically engineered to offer improved resistance to both wear and rolling contact fatigue (RCF) compared to standard-grade rails.

HP335 is the ideal solution for areas where RCF and wear are key issues. The improved resistance to both degradation mechanisms means that rail grinding and track maintenance requirements are greatly reduced, delivering extended rail life and reducing rail life-cycle costs.

Previously known as HPrail®, it's designed for curved track and other high-duty areas. HP335 received full product approval from Network Rail in July 2012 and is the premium rail of choice in the UK mainline network. Several light-rail operators have also adopted HP335 as their

premium rail solution for reducing wear, corrugation and grinding requirements to maximise rail life while reducing life-cycle costs.

Independent research has stated that converting your track from R260 to HP335 could result in savings of more than 60% over the life of the rail.

HP335 can also be supplied, by agreement, as HP350 with an enhanced hardness equivalent to that usually only found in heat-treated rails.

Weathering Steel

Our recently launched weathering steel structural sections are perfect for a whole range of outdoor projects in exposed locations, thanks to their self-protecting and durable nature. They offer an attractive and economic solution for many structures, including bridges, buildings and catenary gantries.

High-strength, low-alloy, weathering steel defends itself from corrosion by forming a protective oxide patina, so there is no need to use

paint or other protective coatings.

The steel's corrosion rate is so low that structures fabricated from unpainted weathering steel can achieve long lifespans – in some cases up to 120 years – with only minimal maintenance. This makes it ideal for bridges and structures where access is difficult or dangerous, resulting not only in enhanced safety but also in reduced associated costs with fewer required road and rail possessions.

Weathering steel also connects perfectly with the environment – its attractive appearance blends sympathetically with its surroundings, changing and improving with age, while avoiding the environmental problems linked with volatile organic compounds associated with paint.

Rail Technical Services

Our technical team offers expert advice and support, helping you optimise your rail selections. Rail products and grades can be matched precisely to track conditions, track types, environmental conditions and a



host of other variables to ensure every rail we deliver provides optimum performance throughout its service life.

Our wide range of technical services helps improve operational efficiency and network integrity on both light and heavy rail networks:

Metallurgy and materials technology

Experienced metallurgists and materials technologists help design and select track system components to meet specific duty requirements. The team works closely with network operators and maintainers to enhance network performance, reliability and safety.

Failure analysis

Our extensive knowledge of rail steel metallurgy and understanding of fracture mechanics means we can provide a full range of investigative services to establish the root causes of failure, as well as recommending corrective and preventative actions. If you have unexplained track or component failures, then our team can help.

Track monitoring

Our multi-disciplined team has vast experience of monitoring the in-service performance of rail networks. Monitoring techniques range from detailed visual inspections to using precise instrumentation and non-destructive testing. Survey results can be used to identify causes and rates of degradation, enabling rail operators to accurately predict performance and develop appropriate techniques for effective asset control.

Welding technology

Our welding technology consultancy service helps customers produce reliable welds, reduce weld maintenance costs and extend rail life. We can develop welding schedules designed to control weld geometry, optimise weld process control and enhance process monitoring and analysis.

Laboratory testing

We can also conduct a wide range of laboratory tests to international standards, as well as

designing and building bespoke test arrangements. These provide customers with independent certification of the performance of safety-critical railway components. Laboratory testing can also be used to investigate the performance of worn components to optimise their service life.

Over the last year, to combat the lack of opportunities brought about by COVID-19 to showcase our products and services, the team launched a series of #TechnologyTuesdays webinars that were very well-received and addressed some of the hot topics facing the rail industry. However, there's nothing quite like being face-to-face with real-life demos to demonstrate our capabilities.

Find out how we can help you build stronger railways by visiting our rail team at Raitex/Infrarail – Hall 11, Stand N71.

www.britishsteel.co.uk





**BRITISH
STEEL**



PROUD TO HELP OUR CUSTOMERS SUCCEED

Understanding your needs to deliver railway success

As a modern company with 160 years of heritage, we've been developing premium products and providing tailored solutions to secure a sustainable rail industry.

We're proud to be helping build stronger futures for high speed, heavy duty, mixed traffic, metro and tramway networks.

Discover how we can work with you to help you succeed.

T | +44 (0)1724 404040

E | rail@britishsteel.co.uk

**FIND US AT
RAILTEX / INFRARAIL**

NEC, Birmingham
Hall 11, Stand N71

BRITISHSTEEL.CO.UK/RAIL

BUILDING **STRONGER** RAILWAYS