

Votork International - Can-do engineering

This article first appeared in Railway Strategies Magazine dated December-January 2007



Vortok International is a leading manufacturer of permanent way equipment used by railway maintenance companies throughout the world

The world-renowned Vortok International offers innovative, practical and highly cost effective solutions to on-track maintenance, management and engineering problems. Using highly experienced engineers and designers, Vortok's range of track related products have positive and lasting benefits. Indeed, they are easy to install, easily transportable, safe, secure, tested and approved, save time and money and manpower efficient.

Vortok products are designed to be installed efficiently, without affecting scheduled operations. With Vortok, train schedules remain unaffected, there are no effects on track circuiting or the environment and existing installations and infrastructure remain the same.

The company's engineering solutions are both immediate and cost-effective, and have perceivable long-term benefits to the overall operation of the railway, such as reducing the risk of penalties, rationalising manpower and increasing safety. Undeniably, as the leading manufacturer of permanent way equipment for railway maintenance companies, Vortok International's products offer innovative, practical and highly cost effective solutions to on-track maintenance, management and engineering problems. Its major product lines include the Vortok Coil, rigid safety barriers, temporary AWS magnets, non-destructive stress-free temperature measuring system, clip-on track circuit insulators, retrofit switch roller systems, cable guards and signboard supports.

Vortok's lightweight temporary automatic warning system (AWS) magnet can be used for many purposes, like for example, with speed restrictions. The lightweight magnet offers significant savings in installation times, while the complete system weighs just 20 kg and can be installed on track by one person in minutes. No tools are required for attachment and once installed, the unit can be secured with a padlock.

Developed and tested in the UK, this product is fully approved for use by Network Rail and is somewhat revolutionary when compared to existing methods. When used in conjunction with the Vortok Signboard Support, a temporary speed restriction can be installed safely using minimal manpower and no tools.

The Vortok Safety Barrier, another famous Vortok product, is a huge step forward for the protection of track workers. Offering superb support, the barrier allows train speeds of up to 100 mph whilst at a four feet distance setting, adjusting out to six feet clamp to the running rail on either bullhead or flat-bottomed rail without the need for tools and is insulated for use around third rail areas. There is also a three feet version available that can be set up and left erected for an indefinite period, allowing trains to pass at full line speed in either direction. The outstanding Vortok Safety Barrier has become the industry standard for setting up safe systems of work.

VERSE – a non-destructive stress-free temperature measuring system - is a development from Vortok that can be used for identifying the stress free temperature in continuously welded

rails to prevent rail breaks. Previous methods have involved cutting rails and re-welding, but VERSE is a non-destructive technique that requires no cutting. The equipment comprises a frame featuring a hydraulic lifting device, a force transducer and a displacement transducer. The measurement systems are connected to a rugged, hand-held computer.

The Vortok Rotorrail is a retrofit switch roller system - an entire switch can be fitted with the system in less than 15 minutes, a remarkable feat. Once installed, the switch does not require any form of lubrication and never requires adjustment. The units fit to the existing baseplates and can reuse all the existing fittings. The Vortok Rotorrail is a fraction of the cost of similar systems and can be installed without any special training. Versions are available for flat bottom, shallow depth and bullhead baseplates. Several other versions have been developed for overseas railways, confirming Vortok's appeal in the international arena. The Vortok Clip-on insulator is a durable, safe and effective insulator for protecting railway track circuits. Fitting does not hinder the running of trains and so the risks of penalty payments are reduced and train delays prevented. Built from a strong UPVC polymer, the Vortok Clip-on insulator is resilient to UV radiation and moisture degradation.

The Vortok Coil – used commonly in screwspike repair - is the internationally proven and preferred method of repair for loose screwspikes in wooden railway sleepers or dowels. The Vortok Coil can restore up to 90 per cent of original pullout strength and offers a number of considerable benefits, such as it is simple, delays sleeper replacement, is fast and economical to install, can be installed under traffic (no possession required), restores up to 90 per cent pull-out strength and torque, improves track structure and gauge retention saving time and also reduces maintenance costs. Furthermore, it is unaffected by climatic or environmental conditions and existing screwspikes and fastenings can be re-used.

Given the unique nature and can-do attitude of Vortok, many more years of success in the rail industry should be expected. Vortok can be proud that its products have made a real difference in terms of safety and reliability, as well as other important rail issues. Without a doubt, the company has contributed invaluable to UK rail infrastructure, developing world-class solutions to maintenance, management and engineering problems, which have now reached a global audience.