

Top of Rail, a service for the prevention of rail squeak on bends.

IGRALUB, the TOTAL SERVICES PROVIDER, has been dealing with the problem of rail squeak on bends for more than 15 years. This depth of experience guarantees comprehensive consultation for a successful solution.

Igralub offers:

- the high-tech lubricant *HeadLub*
- optimal application systems
- the TOR Control control system with GPS
- service support for the introduction and maintenance.

The cause of rail squeak on bends is the stick-slip effect of the inner rail on the top-of-the-rail and the wheel flange contact to the outer rail. In order to prevent rail squeak on bends, the vibration excitation between the wheel and the rail must be reduced or prevented. This is achieved by reducing the coefficient of friction. A lubricant is applied between the friction parts as a friction modifier, thereby reducing the coefficient of friction.

Lubrication systems must guarantee the following: the application of the lubricant must take place:

- at a specific location (inner or outer rail in a curve, top-of-the-rail / rail sides),
- at a specific time and for a specific duration (hours / daily use),
- in a controlled quantity.

These three functions are the minimum requirements for a successful lubrication system. Two main groups of systems are currently offered on the market: stationary and mobile lubrication systems.

Mobile lubrication devices are mostly spray systems. Mobile spray systems are simple and cost-friendly to maintain. In order to treat the complete rail network, it is sufficient to install the system on a small percentage of the available vehicles..

Stationary lubrication systems are devices that are set up alongside the rails. In separated systems, the lubricant is thereby applied to either the rail sides of the outer rail or to the top-of-the-rail on the inner rail. The build-up of the lubricating film over the complete length of the bend is carried out by the wheels rolling over the rail. Under certain weather conditions, the build-up of the lubricating film may have to be restarted, which could lead to rail squeak in the meantime. The investment costs and the maintenance of the systems are several times more expensive than for mobile systems.

Our TOR Control System controller, fitted with electronics and GPS, makes possible the very accurate application of a lubricant. It meets the above requirements and is an independent electronic controller. Signals will be received by an existing GPS or control system.

In the case of manual control, the command to spray the top-of-the-rail is given manually by means of a button in the driver's cab. This type of equipment is recommended for small railways and mountain railways.

