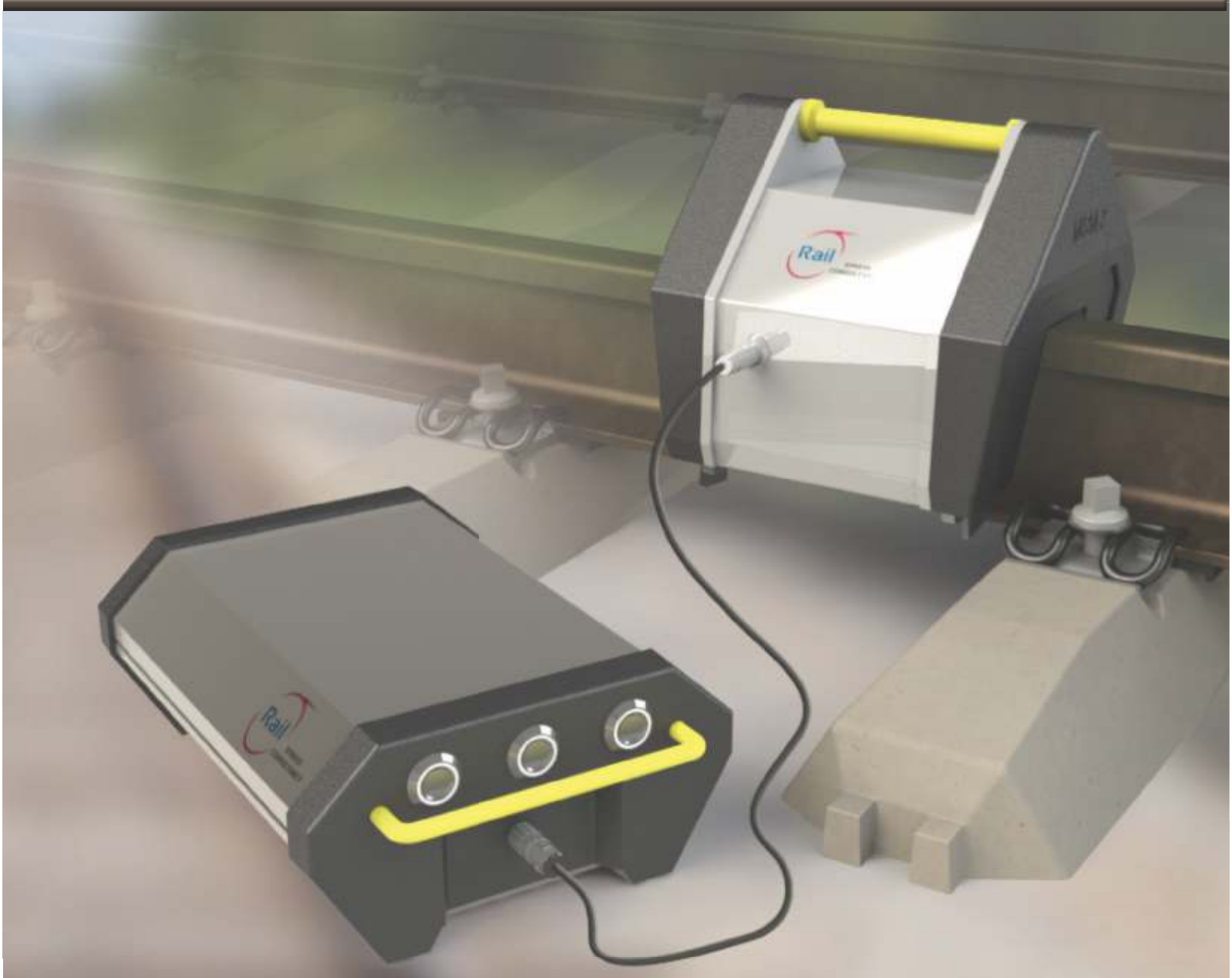
MSM

Metal Stress Measurer

STRESS LESS! GET A GRIP ON RAIL BUCKLING AND RAIL FRACTURING



Rail buckling and rail fracturing due to compressive and/or tensional rail forces are a continuous safety topic for every rail maintenance engineer. The MSM (metal stress measurer) provides you with an excellent tool for measuring the stress levels in CWR-track.

MSM is developed by BRUNELCO ENGINEERING BV in The Netherlands, a Dutch electronic engineering company with close ties to the Technical University of Twente. For sales and consultancy Brunelco has partnered with TLC ENGINEERING SOLUTIONS (PTY) LTD in South Africa.

METHODOLOGY

The Rail Neutral Temperature (RNT), also called stress free temperature (SFT), is the key track parameter for determining the level of compression/tension in a rail. The MSM determines the RNT of tracks, using an innovative methodology (patent pending). The method makes use of the inverse magnetostrictive effect also known as the “Villari-effect”.
The MSM measures the magnetic permeability of a rail in compression/tension and compares the results with that of a stress free rail. The end result is computed into the RNT of that particular point of the track.

INSTRUMENTS

The equipment to measure the RNT consists of two units and a laptop:
- The measurement instrument known as MSM
- A control box for power supply and process control

The MSM determines the magnetic permeability and the actual rail temperature (°C/F) of the rail, the control box powers, regulates and controls the measurement process and sends the data via a wireless link to a computer or tablet loaded with the MSM proprietary software. The software dashboard shows the RNT for that particular point of the track as well as the rail temperature and the location.
The measurement itself takes only 5 minutes and it can be executed on rails under stress and under traffic. It does not require unfastening of clips or bolts, making it a quick and safe method. The equipment is light-weight and can be powered via a battery pack, generator or vehicle outlet (12/24V). The whole set comes with a ruggedized laptop in an easy to handle flight case.

BENEFITS

- Increases track safety against low operating cost (16 km per shift)
- Non-destructive and safe method
- Accurate measurements (± 2.5 °C) with electronic data capturing
- Pro-active track maintenance management and condition monitoring
- Reliable, robust and extremely user friendly
- Combines with fixed strain gauges for monitoring track

Rail STRESS CONSULTANCY

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