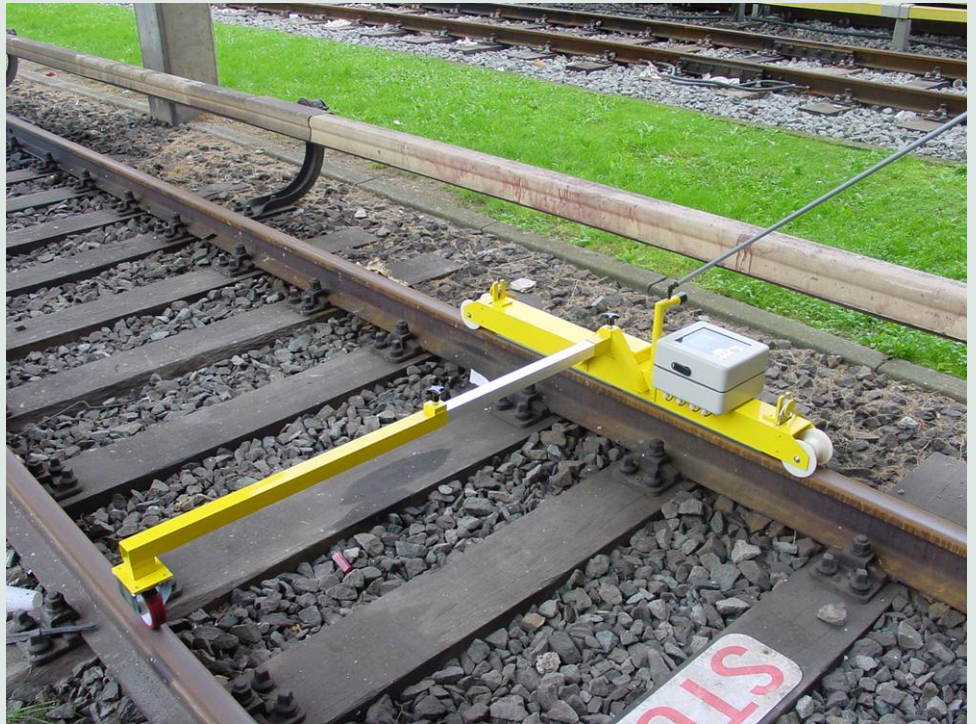




RSA RAIL SURFACE ANALYSER



APPLICATION

- Rail roughness quantification.
- Rail corrugation quantification.
- Grinding quality testing.
- Noise measurements and predictions.

FEATURES

- Measures railhead vertical variation relative to a sliding reference with a length of 1 m as function of distance.
- Complies with ISO 3095: 2005 (E).
- UNLIMITED measurement distance.
- Light weight, self-contained guidance on track.

SPECIFICATIONS

Measurement transducers

- Dynamic range: $\pm 5000 \mu\text{m}$.
- Transducer type: displacement (LVDT).
- Number of transducers: 3 (independently positioned over the rail head).
- Measurement noise floor: $0.1 \mu\text{m}$.
- Encoder for position determination 128 pulses per rotation.

Data acquisition

- Recording device: 4 channel simultaneous sampling – 16 bit A/D converter.
- Resampling in post-processing at 1000 samples per meter.
- Data storage: 1 Gigabyte memory.
- 6 hours of measurements.
- Download of data to laptop: USB-1.

Data processing

- Flexible software allowing data output in various forms.
- Roughness spectra in:
 - 1/3 octave bands ;
 - narrow band ;
 - PSD.
- Colour maps.
- RMS level versus distance, ...

Transportation

- Flight case:
- dimensions: $0.4 \times 0.4 \times 1.2 \text{ m}$
 - weight: $< 20 \text{ kg}$

Vertical displacement in m
over rail distance

1/3 octave band roughness spectrum,
amplitude in dB (re. $1 \mu\text{m}$)
versus wavelength

Colour plot wavelength over rail
distance, colour scale in dB (re. $1 \mu\text{m}$)

