

Ultrasonic Rail Flaw Detection



ULT5



ULT 7 (in test mode on GAUTRAIN)

Ultrasonic Rail Flaw Analysis - RFAS 2100

Aveng Rail, leading mechanised track maintenance and construction company in South Africa, is the licensed operator of the RFAS 2100 Ultrasonic rail flaw detection system. This system is the latest development by Speno Rail Maintenance Australia (Pty) Ltd.

The RFAS 2100 system enables data from up to 12 channels per rail to be analysed in real time at speeds up to 38km/h. The system incorporates multiple levels of detection logic to construct a composite picture of rail data generated by the various angle transducers. The analogue signals from the transducers are individually amplified, de-skewed (horizontally & vertically), scaled and presented on a digital screen against parameters set by the operator.

All indications, as small as one pixel, will be presented to the operator on a 27" high resolution monitor. Various other important information, such as the current track location, test speed, travel direction, geometry and Differential GPS co-ordinates are captured by the top of the range hex core hyper threading computers.

All data, including set parameters & testing speeds are saved to hard disk and can be replayed in the ultrasonic test vehicle or at a later time in an office environment. The system produces Defect, Vehicle Movement and Rail condition reports.

To increase the average test speeds, use is made of a "Satellite" vehicle fitted with a Laptop computer and radio modem link to communicate with the primary test vehicle. The laptop operates the MIARail system (developed by e -Logics) which displays the track layout with all relevant attributes. Both vehicles are displayed on the track layout diagram enabling a safe distance to be maintained apart from each other. The "Satellite" vehicle stops and does the flaw verification and sizing, leaving the main vehicle to continue scanning for possible discontinuities.

Specification:

- Real time defect analysis and presentation, along with saving of all raw data for replaying purposes.
- Probe configuration easily configured to suit the Client's needs.
- Remote probe positioning
- High speed testing
- User friendly screen presentation of rail defects
- User friendly system configuration
- Able to replay any previous test run
- Communicate via modem with a "Satellite" vehicle whilst in a 'non-stop test' testing mode
- Probe wheels developed over many years
- Industrial & High Quality equipment used.

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- Testing speed (maximum) – 38 km/h (rail and track condition dependant)
- Testing resolution (pulse repetition rate) 4mm – driven by a 1mm 'shaft encoder' resolution.
- Test Direction – Forward & Reverse
- Vehicles – Both vehicles Hi-Rail Road Rail Type vehicles
- Daytime / night testing
- Testing can be done on both narrow and standard gauge track.



ULT 2



ULT 6



ULT 4