

Longer Life Insulated Rail Joints (R3.100)

Background

The current design of insulated rail joints is characterised by high maintenance and low life relative to continuously welded rails. Through the research conducted by the previous Rail CRC, it was identified that the primary failure mechanisms of joint bar cracking and railhead metal flow is wheel impact in the vicinity of end posts.

Objective

The project aims to examine the structural and electrical integrity of the new generation joint design through lab and field tests prior to providing guidelines for revised dimensions and tolerances in manufacturing, installation and maintenance.

Outcomes

The findings will be used as the basis for reviewing the provisions for manufacturing, sampling, testing, installation and maintenance in AS1085.12 as well as publishing a "Best Practice Manual for Design and Maintenance of Insulated Rail Joints". By ensuring healthy joints remain in service for longer durations requiring minimal maintenance interventions, the project will enhance increased capacity and efficient track throughput.

Benefits

By enhancing the service life of these joints, the frequency of maintenance interventions can be minimised and hence contribute to the rail industry's infrastructure design and capacity.

Project timeframe

1 January 2008 to 31 December 2011