

# Railway Track Expertise

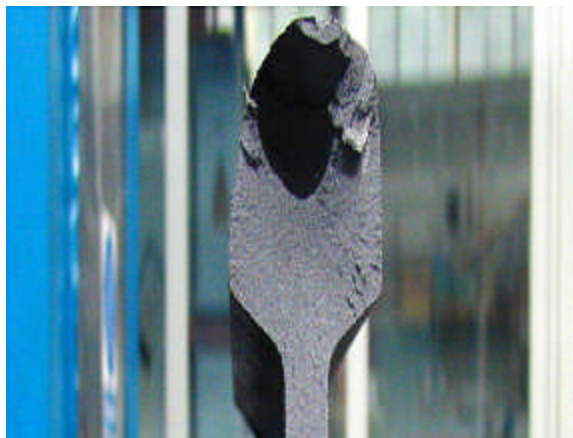


Swinden Technology Centre has been involved in the development and testing of new and improved rail steels for many years. During the last 10 years this expertise has been extended to include the detection and analysis of rail defects, prediction of rail life, component design, track force monitoring and numerical modelling of dynamic forces and contact stresses.

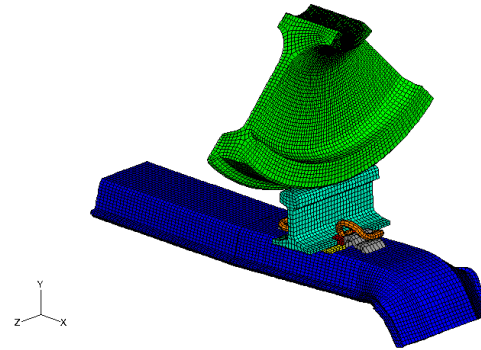


## Rolling Contact Fatigue Cracks in Rail

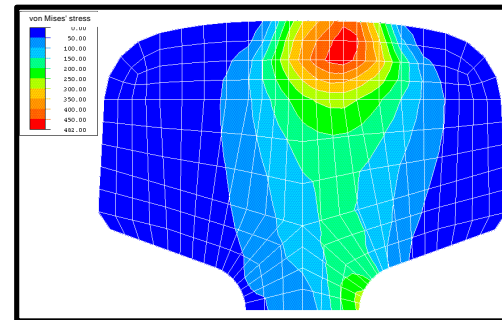
Following a derailment on the east coast mainline at Hatfield Railtrack awarded Corus a contract to monitor the development of Rolling Contact Fatigue (RCF) cracks at a number of sites on the the network and to investigate rail breaks and defects removed from track. This work is leading to a better understanding of this phenomenon and contributing to a safer railway.



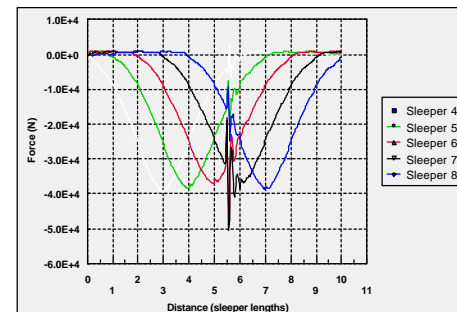
Internal View of RCF



Finite element models of the sleeper and clip have been developed to aid component design



Finite element models of the rail/wheel interface have been developed to determine the contact stresses developed during the passage of a wheel.



Model have been developed to predict the dynamic forces on the track created by the rail vehicles