

ESTIMATION OF GRINDING LENGTH REQUIRED TO BLEND SIDEWORN RAIL INTO NEW RAIL ON CURVES

A theoretical study has been carried out to investigate the effect on derailment of the transition length used to blend sidworn rail into new rail.

Peak lateral forces, lateral/vertical force ratio and yaw angle are shown to be highly sensitive to blending length when the blending length is short (less than one metre). The manner in which these parameters vary appears to be independent of the vehicle type and curve design speed.

It is suggested that a minimum blending length of 1.5m could be adopted without having any significant detrimental effect upon derailment safety.