

RAIL REPLACEMENT CRITERIA IN CWR

This report considers the criteria for rail replacement in continuously welded rail (CWR) in answer to a request to review the current position on rail replacement criteria in the light of the available information on rail failure mechanisms. Assuming that fatigue is the mechanism that sets a safe limit on the life of a rail the problem is one of identifying an easily measured quantity which will indicate the fatigue damage a rail has sustained. It was the purpose of this study to consider if this is possible and to attempt to identify criteria for rail replacement.

The problems associated with theoretical prediction of rail fatigue life and the implications of practical experience in the form of rail failure statistics are discussed. Difficulties are encountered in specifying unambiguously the headwear limit particularly where the traffic mix includes heavy axle freight. An alternative approach to rail replacement is tentatively suggested and possible actions to be taken concerning insulated joints are discussed.