

Allowable Lateral Load of Rail Fastening System Based on Estimation of Fatigue Life of Rail Clip

Shingo TAMAGAWA Tadashi DESHIMARU Hiroo KATAOKA

The determination of an allowable lateral load of a rail fastening system is an important factor in planning introduction of new rolling stock into service and speed-up of the train. The purpose of this study is to make clear an allowable lateral load of a rail fastening system based on estimation of a fatigue life of a rail clip. First, an estimation method of the fatigue life was proposed based on the Miner's rule. Secondly, the relationship between the load which acts on a rail and the stress of a rail clip was examined by a laboratory test. Thirdly, the fatigue strength of the weathered rail clips was measured by a fatigue test. Finally, the fatigue life was estimated by the proposed method and the allowable lateral load of a rail fastening system was made clear.