

Influence of Crosswind on Flange Climb Derailment

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When a railway vehicle runs on a sharp curved track, a crosswind from the outside of the curve can cause a decrease in the outer wheel load, which may lead to a flange climb derailment. However, we cannot estimate the influence of crosswinds on flange climbing simply, because the lateral force exerted on the outer wheel flange may also decrease at the same time. Thus, in order to investigate the influence of crosswinds precisely, we have conducted running tests under crosswinds using a 1/10th scale model. As a result, it has been revealed that only very strong winds such as the one nearly equivalent to critical speed wind of overturning can cause flange climbing.