

**Analyzing the Effect of the Profile Change of Top Surface of 60kg Rail  
upon the Vehicle Dynamics**

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To evaluate running stability, we computed equivalent conicity by considering the combination of new rail profile and arc wheel profile (Sinkansen). For the new rail profile, curvature of the top surface of 60kg rail was changed into 300mm radius (the same as that of 50kgN rail). The computation result under the condition of use of new rail shows small equivalent conicity and high running stability regardless of degree of wear of the wheel. Furthermore, from the result of vehicle dynamics simulation, new rail is endowed with running characteristics equivalent to 60kg rail, and significant influence on running safety with the profile change was not confirmed.