

Development of Tie Plate with Elastic Support Structure for Rigid Crossings Fixed Directly to Composite Sleepers

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Turnouts fixed directly to composite sleepers for the Shinkansen trains have large dents on the nose rails, compared to those of ballasted turnouts. To solve this issue, focusing on the difference in the dynamic load depending on the support condition, the authors newly developed a tie plate for rigid crossings with elastic support. The developed tie plate can make depth of dents on nose rails of turnout fixed directly to composite sleepers equal to that for a ballast turnout. In addition, it is compatible and replaceable with the conventional tie plates.