

Proposal of Elastic Support Structure of Expansion Joint Laid on Composite Sleeper on Direct Fixation

Saki SHIMIZU Yuya OIKAWA Tadashi DESHIMARU
Yuki MOTOMURA Shinji SATO

The expansion joint laid on composite sleeper on direct fixation of the Shinkansen is supported more rigidly than those laid on the ballasted track. On the other hand, a high-elasticity rail fastening is used in the slab track of the Shinkansen, so there is a big difference of strengths of track support elasticity, between the composite sleepers on direct fixation where expansion joints are used, and the adjacent normal slab tracks. To solve this problem, we have developed an elastic support structure for expansion joints. In the structure developed, an elastic pad is placed under a baseplate, and the baseplate is fastened to a track bed with a plate spring. It is compatible with and replaceable with conventional rail fastenings.