

7. Development of Railway-noise Reduction System - Noise Prevention Measures by Combining Urea-urethane Resin and Soundproofing Panel -

Katsuhide Morimoto, Koichi Inadome, Koji Tsukamoto, Akihiro Tsuda

Steel railway girders produce larger railway traffic noise than concrete girders, and noise control measures are demanded especially in urban districts. Noise barriers are effective against noise, but measures that impose large structural burden on existing steel girders are difficult to implement. In 2001, a test was conducted to coat an existing steel girder with urea-urethane resin, which reduced noise by a certain extent. In this study, a soundproofing panel was developed, which can be installed horizontally on open deck steel railway bridges, and was used together with the urea-urethane coating to further reduce noise. The combination was found to reduce noise by 4.5 dB the maximum.

Key words : railway bridge, steel girder, noise, urea-urethane resin, soundproofing panel