

Application of geocomposite placed beneath ballast bed to improve ballast quality and track stability

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Abstract. The article deals with the application of a stabilization hexagonal geocomposite for the improvement of poor stability of railway tracks caused by undesirable migration of fine soil particles from the subgrade into the ballast bed. The establishment of a test railway section on a single-line track situated near Domazlice and its long-term monitoring programme are described. Evaluation is aimed especially at track geometry parameters, the load-bearing capacity of the ballast bed, elastic rail deflection during train passages and the durability of geocomposite's physical properties. The data taken from the test section during five measurement campaigns are compared with both adjacent sections. In one of them, only the ballast bed renovation was carried out, whereas in the second one no intervention was performed at all. The usage of a pioneering geosynthetic product in combination with new trends in ballast bed restoration seems to be an innovative as well as effective solution to analogous problematic spots on railway tracks in the Czech Republic.