

Application of the Stabilizing Polymer Additives for Protection of Dump Overflow from Wind Erosion

**O. N. Dabizha, D. V. Bespolitov,
N. A. Konovalova, P. P. Pankov, E. A. Rush**

*Transbaikal Institute of Railway Transport - Branch of Irkutsk State
University of Railways, Chita, Russia;
Irkutsk State University of Railways, Irkutsk, Russia*

Keywords: wind erosion; overburden; dump massifs; waste from the mining industry; dusting of dumps; dust suppression; dust-binding composition; stabilizing additive.

Abstract: The effectiveness of using the stabilizing additive StabOL for fixing the surface of overburden dumps has been studied. It was found that the average mass radius of supramolecular formations in the StabOL polymer solution is 593 nm. It was revealed that this polymer solution forms a high-quality film: transparent, homogeneous, without cracks and crystalline inclusions. The phase and granulometric compositions of overburden for the formation of organomineral aggregates of particles resistant to water and mechanical stress have been established. It is shown that the use of environmentally friendly polymer solution StabOL allows reducing the content of highly dispersed particles and is an effective way to protect dumping overburden from wind erosion.

© О. Н. Дабижа, Д. В. Бесполитов,
Н. А. Коновалова, П. П. Панков, Е. А. Руш, 2021