
Development of a Crawler Type Soil Mixing Machine with Dryer Function

Satoshi YAMADA, Toshiyuki TEMMYO, Takeshi KOSHIDA, Isamu SANDANBATA, Hiroshi ITOH, Akihiro YAMAGISHI

This paper describes a newly developed soil mixing machine with dryer function. Regarding the core embankment of rock-fill dams, fine-grained soil and coarse-grained gravel must be mixed uniformly and efficiently in the stockpile. When the fine-grained soil is relatively wet, compare to optimum water content, blended soil becomes difficult to mix uniformly because fine-grained soil tends to become what is called “clay lumps”. Therefore reducing moisture content of fine-grained and wet soils is an important issue for the core body of the dam.

In this background, we developed a machine called “Mantis”, which can blend efficiently fine-grained soil and coarse-grained material even when the mix has a very high content of fines and moisture. We used a crawler type soil mixing machine, called “Stabilizer” improved with a fan for sending hot air produced with engine’s exhausted heat. Finally, we carried out a trial blending test at the stock yard. We found the processed material was well mixed and its moisture content was reduced.