

Abstract

JET GROUTING METHOD, GROUND IMPROVEMENT BODY, AND GROUND IMPROVEMENT STRUCTURE

A jet grouting method is capable of reducing an unnecessary portion (redundant portion) exceeding an effective wall thickness without narrowing a construction pitch, and capable of allowing easy mechanical control. A ground improvement structure including a plurality of ground improvement bodies is constructed through use of the jet grouting method. Each of the ground improvement bodies is constructed so as to have a sectional shape formed by a combination of different kinds of fan shapes having different radiuses. The sectional shape of the ground improvement body is a combination of at least two kinds of fan shapes. One of the kinds of the fan shapes corresponds to a fan shape with a smaller radius, and the other corresponds to a fan shape with a larger radius. The sectional shape of the improvement body has a minimum diameter portion formed of the fan shapes with the smallest radius and a maximum diameter portion formed of the fan shapes with the largest radius. When designing the ground improvement body, a central angle is determined from a fan shape having the smallest radius with respect to the effective wall thickness. When constructing the ground improvement body, a diameter thereof is controlled by stepwisely changing a rotation speed of the injection rod. At that time, a soil breaking achieved by an improving material injected at high pressure is monitored so as to check the diameter of the ground improvement body and the effective thickness thereof.

(FIG. 1)