

Multi-Step Grouting Apparatus and Method

Abstract

The multi-step grouting apparatus in accordance with the present invention comprises a cylindrical injection pipe 1 in which a plurality of injection holes 3 are formed around the perimeter at regular intervals and a protruded spacer 2 having a ring configuration is formed in one body with an injection pipe 1 and a plurality of couplers 12 with an internal thread connect the injection pipes 1 having an external thread formed on both ends thereof; a backflow prevention means to open and close said injection hole 3; an injection hose 5 that is inserted into said injection pipe 1 and is used for injecting a grouting material; a packer 6 that is inserted into the inside of said injection pipe 2 and is used for sealing the inside of said injection pipe 2; and two sealing hoses 9 inserted into the bored hole 11, wherein one having a long length is placed on the lower part of the injection pipe 1 and extended up to the end of the bored hole 11, and the other having a short length is placed on the upper part of the injection pipe and installed up to the entrance the bored hole 11.

Figure No. 2