

Title (en)

Method and apparatus for forming piles in place

Title (de)

Verfahren und Vorrichtung zum Herstellen von Ortbetonpfählen im Boden

Title (fr)

Procédé et dispositif pour la réalisation en place de colonnes

Publication

**EP 1046753 B1 20040623 (EN)**

Application

**EP 99107303 A 19990419**

Priority

EP 99107303 A 19990419

Abstract (en)

[origin: EP1046753A1] A method for making piles apparatus for practising the method of the invention are disclosed. The invention may be used to support the foundation of a structure, such as a building. The method draws one or more soil displacing members (60) on a shaft (32) down through a body of soil (46,48) by turning a screw (34) at the lower end of the shaft (32). The soil displacing members (60) force soil out of a cylindrical region around the shaft (32). The cylindrical region is filled with grout (70) to encapsulate and strengthen the shaft (32). The grout (70) may be fed by gravity from a bath of grout (66) around the shaft (32). The methods of the invention may be used to make stepped piers at much lower cost than existing methods. The invention provides methods for coating the screw portion (34) of a screw pier with grout (70) to protect the screw (34) from the action of corrosive soils (46,48) and to reinforce helical screws (34). <IMAGE>

[origin: EP1046753A1] The method draws one or more soil displacing members on a shaft down through a body of soil by turning a screw (34) at the lower end of the shaft. The soil displacing members force soil out of a cylindrical region around the shaft. The cylindrical region is filled with grout to encapsulate and strengthen the shaft. The grout may be fed by gravity from a bath of grout around the shaft. A method is provided for coating the screw portion of a screw pier with grout to protect the screw from the action of corrosive soils and to reinforce helical screws. The fluid grout is forced under pressure into the volume whilst the screw is rotating, by forcing it through a longitudinal channel within the shaft and directing the grout into the volume through apertures in the shaft wall. The soil in the volume is loosened before removal, by repeatedly turning the screw through one or more revolutions and then reversing it. The discs (60,62) are smaller than the screw. An independent claim is given for a screw pier for making a grout encased stepped pile, and also for a drive tool for installing a grout encased screw pier.

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