

**Jet-Grouted Laminar Diaphragms**

Jet-grouted laminar diaphragms are impermeable barriers constructed underground using special jet-grouting techniques. By jetting grout into the soil through properly spaced drill holes, a continuous diaphragm, or membrane, may be constructed to prevent the passage of water or other fluids which may contain toxic or hazardous chemicals. Drill holes are spaced according to the plans of the project. If the grout diaphragm is to be vertical, commonly used drilling equipment is used. If the drill holes are to follow a particular shape, such as would be the case if the membrane is to be placed beneath a hazardous waste site, then directional drilling equipment is needed. The nominated jet-grouting method uses special grout nozzles to create a grout sheet of controlled width and thickness from each drilled grout hole. This sheet is commonly 100mm to 150mm in thickness, two to three meters in width, and of any desired length. According to the nomination, the width of the sheet in one pass can go up to six meters. Actual lateral soil penetration of the grout jets is a function of the nature of the soil, the type of equipment used, the skill of the operator, and other factors.

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