

# Chemical Grouting - What is it and how is it used?

Chemicals are mixed with water and reagents, such as sodium silicates, or various urethanes for permeation into dense granular soils for excavation shoring or to increase bearing capacity and strength. Sodium Silicate is most commonly used for strength. In essence, the material is a soluble glass that begins to harden as the pH of surrounding material decreases below about 10.5. As an alternative, another additive can be included to drop the pH.

Although, care must be given to site-specific conditions, a typical mix design for chemical grouting would look like the following:

Chemical grouting is also used for water control. In this case, a polymer or polyurethane may be used.

[Chemical grouting](#)