ConduCrete Installation Procedure

Before beginning installation, please familiarize yourself with all safety precautions and handling procedures as outlined in the ConduCrete SDS.

Horizontal Installation

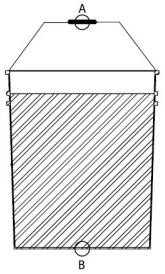
1. Dig trench up to 20” (0.5 m) wide, 24” (0.6 m) deep, and to designed length
2. Smooth out bottom of trench
3. Lay copper wire in center of trench
4. Cover wire to 1.5” (4 cm) depth with ConduCrete in either a slurry or dry format
5. Hand shovel 5” (13 cm) of loose backfill over ConduCrete and compact
6. Backfill trench with excavated material

Dry Vertical Installation Using ConduCrete Bag

Suitable for holes 20’ (6.1 m) or less in depth.

1. Drill hole to designed depth and diameter
2. Place copper wire in center of the hole
3. Place ConduCrete in hole in a dry format to the desired depth.
4. Backfill top of hole with excavated material

Vertical Installation Using ConduCrete Pail



Suitable for 18” (46 cm) diameter hole or larger.
To limit the amount of airborne dust follow these directions.

1. Remove lid from pail
2. Affix harness connectors to connection points A & B, as per diagram
3. Lower pail to bottom of hole using cord, keeping top of pail level
4. Lift cord connected to connection point B until all ConduCrete is dispensed
5. Remove pail by lifting both cords
6. Continue process until required amount of ConduCrete is placed in bottom of hole

saeinc.com
1 877 234 2502 | 705 733 3307
info@saeinc.com

Mixing and Pumping ConduCrete Installation

Suitable for holes greater than 20’ (6.1 m) in depth.

Mixing ConduCrete into a Slurry

ConduCrete backfill is required to be mixed in a specific ratio: For the Pro version 3.0 US gallons (11.4 liters) of water per 1 bag (55 lb) of ConduCrete Pro or for the CP version 3.5 US gallons (13.2 liters) of water per 1 bag (55 lb) of ConduCrete CP.

Equipment Required to Mix ConduCrete

A mixing trough is required to mix powdered ConduCrete and water into a slurry. The mixing system may be either:

a. A paddle mixing system
b. A pumping cycling system that will extract the mixture from the trough and circulate it back into the trough in a closed circuit system
c. Batch mixing with concrete mixers into holding / recirculating tanks

Mixing Procedure

1. ConduCrete must be batch mixed with a paddle style, or a pumping cycling mixing system with the proper measured water to ConduCrete ratio
2. It is recommended that a screen (grate) be placed over the hopper or mixing trough before pouring dry ConduCrete mix into the hopper
3. Mix the powdered ConduCrete into a slurry with clean water at a ratio of either 3.0 US gallons (11.4 liters) of water if using ConduCrete Pro or 3.5 US gallons (13.2 liters) of water if using ConduCrete CP per 1 bag (55 lb) of ConduCrete. Careful measurement of water used in the mixture is required to avoid excess water
4. Care must be taken to avoid adding air to the product in the mixing process. The backfill material level must be above the mixing paddles so that air does not enter the backfill material
5. Bubbles must be avoided in the mixing operation to maintain the high density of the mixture
6. Ensure all powdered ConduCrete is blended with the water and that no dry powder remains in the mixture before pumping
7. Ensure that there are no lumps in the ConduCrete slurry that may plug the grout pump or the tremie pipe. Constant agitation is required in batch mixing or recirculating tank operations to ensure no clumps are formed prior to pumping

Pumping ConduCrete Backfill

Equipment Required to Pump ConduCrete

Pumping System

The pumping system used to pump ConduCrete must be designed to pump grout and other cement materials and must meet the following requirements:

- Capable of generating up to 400 PSI
- Accept a minimum 1 ½" (38.1 mm) pipe or hose and be equipped with proper connectors

Tremie Pipes and Hoses

Tremie pipes must meet the following requirements:

- Minimum size of 1 ½" (38.21 mm) to a maximum size of 2 ½" (63.5 mm)
- Ribbed tremie pipes are not recommended
- Observe all safety codes over pressurizing the tremie being used
- If being used in a CP system to avoid damaging the anode wires the connections made to the tremie should be wrapped with plastic sheeting or duct tape to cover any exposed bolts, hose clamps, or sharp edges
- Any relief valves used to protect the tremie from overpressure should discharge into the waste water pit at the surface
- Tremie pipes must be equipped with the proper connectors and be in good working order without kinks or leaks
- The tremie pipe must be long enough to reach the bottom of the drilled well and attach to the pumping system

Pumping Procedure

- Pump the ConduCrete slurry through the tremie pipe to fill the well bore with the specified amount of ConduCrete mixture (refer to design drawing)
- The tremie must remain 25' (7.62 m) below the top of the ConduCrete slurry
- Continuously monitor the pumping rate. If air bubbles are present at any time, the operations should be stopped until the air source is eliminated
- Once all ConduCrete has been pumped into the bore, withdraw the tremie pipe from the well bore
- The tremie pipe must not be left inside the column of ConduCrete once pumping is completed. The tremie pipe must be removed as not to potentially affect the integrity of the solid ConduCrete column
- Flush the residual ConduCrete left on equipment into the wastewater pit and rinse clean with water
- Please note that the following precautions should be taken to prevent the tremie from being difficult to remove after pumping:
    - The correct water to ConduCrete ratio is followed
    - Pumping operations should be completed in less than 2 hours to avoid set up of the backfill
    - The use of ribbed pipe or hose is not recommended

Published Date: June 2024

saeinc.com
1 877 234 2502 | 705 733 3307
info@saeinc.com