

## Silt Fencing

Silt fencing consists of geotextile material supported by posts and trenched into the ground. It functions as a settling control by reducing velocity, ponding sheet flows and promoting settling of suspended sediment. Silt fences are typically used as a perimeter control to catch sheet flow over a fairly broad area and are not meant to be used in high-flow situations, such as across a flowing ditch or stream. A silt fence should be installed before beginning any work on site. (Figure 1).



**Figure 1**  
Installed silt fence.

**Figure 2**  
Properly joining two ends  
– overlapping

**Figure 3**  
Accumulation of material



# Silt Fencing

## Installation

Silt fencing should always be installed along the contour, never up and down a hill. Every silt fence should also have its ends angled upslope to direct water flow into the middle of the fence. Very long runs of silt fencing should be avoided whenever possible to reduce water concentration in small areas where it could easily overflow the fencing. Segment the site into manageable sediment storage areas, generally keeping the drainage on any area of fencing under 0.1 hectare (0.25 acre).

## To install:

- Dig a trench along the contour where the fence is meant to go. The trench should be approximately 200mm (8 inches) deep and 200mm (8 inches) wide. Be sure to angle the fence ends upslope when digging. Place all excavated soil on the uphill side of the trench.
- Lay out your silt fence along the trench with the stakes on the downhill side of the geotextile fabric to ensure proper support. Ensure the stakes are no more than 2.3m (7.5 feet) apart.
- Drive the stakes into the ground immediately downslope of the trench, making sure that there will be enough geotextile fabric to bury in the trench later. The stakes must be driven a minimum of 600mm (24 inches) into the ground for adequate support. Ensure the geotextile fabric is pulled snug between each stake.
- Place the bottom of the geotextile fabric attached to the stakes into the bottom of the trench and backfill with the soil that was excavated. Compact the soil to ensure the fabric remains in place and is snug.
- Inspect the fence to ensure there are no sagging areas. Add additional stakes to areas that may be subjected to greater flows/forces and secure the geotextile fabric to it with heavy duty staples.

## To join two silt fences together:

- Lay the silt fencing out where it is to be installed.
- Place the end stake from one roll of silt fence on top of the end piece of the other roll. Rotate both stakes in the same direction, together, at least 180 degrees to form a tight connection and then drive the two stakes, now stuck together, into the ground adjacent to the trench and install as usual. (Figure 1).

## Maintenance & Removal

Silt fences must be inspected on a regular basis and after any significant rainfall event. Sediment deposits should be removed when it reaches no more than one-third the height of the fence. Care must be taken when clearing the sediment so as not to undermine the structural integrity of the fence. Damaged or improperly installed fences must be repaired immediately.

## Common deficiencies include:

- Overtopping once too much sediment has been trapped. (Figure 3).
  - Lack of trenching to toe in the bottom of the silt fence. (Figure 4).
  - Inadequate joining of two silt fence sections. (Figure 5).
- Remove the silt fence once the soils on site have been permanently stabilized. For example, the impacted area is well vegetated.



Figure 4  
Lack of trenching



Figure 5  
Inadequate overlap

## Pros & Cons

### Pros

- Inexpensive, and readily available
- Relatively easy to install
- Minimal maintenance required when installed correctly

### Cons

- Not appropriate for large volumes of water or high flows
- Ineffective if installed improperly or damaged correctly

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