USDA NRCS

United States Department of Agriculture

Natural Resources Conservation Service

Silt Fence

FACT SHEET MONTANA

What is a Silt Fence?

This is a temporary barrier made of woven wire and fabric filter cloth (Geotextile) that is used to catch sediment-laden runoff from small areas of disturbed soil such as following a fire.

When is a Silt Fence used?

Silt fences are used for specific situations. Major considerations are slope, slope length, and the amount of drainage area from which the fence will catch runoff. Here are some design considerations:

Slope Steepness	Maximum Slope Length
2:1—(50%)	50 feet
3:1—(33%)	75 feet
4:1—(25%)	125 feet
5:1—(20%)	175 feet
<5:1—(<20%)	200 feet

Drainage Area Limitation: The area that contributes runoff to be caught by the silt fence should not be greater than _ acre for 100 feet of fence.

Location Limitation: Silt fences should be installed on the contour of a slope. Silt fences should not be installed across drainage ways, swales, gullies, ditches or other areas of concentrated water flow.

What materials are needed?

Fence Posts: Posts should be at least 36 inches long. Wood posts should be of hardwood with a minimum cross-section area of 3 inches. Steel posts should be standard “T” or “U” section and should weigh no less than 1 pound per linear foot.

Wire: Wire fence should be at least 14-gauge with openings no larger than 6 inches by 6 inches.

Geotextile Fabric: The fabric should have the following minimum material properties:

Geotextile Property	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lb)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lb)	40	ASTM D751 (mod)
Equivalent Opening Size	40-80	US std sieve sizes
Ultraviolet Radiation Stability	90	ASTM G26

August 2000

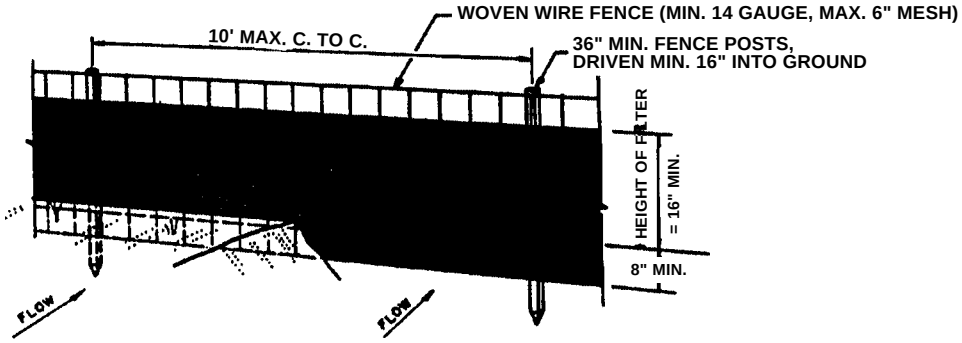
How is a Silt Fence installed?

Prefabricated **Silt Fence** should be used whenever possible to minimize installation labor requirements. An 8-inch deep trench is dug along the silt fence alignment. The **Silt Fence** is unrolled and stretched tight while the posts are driven at least 16 inches below the ground surface. Sections of **Silt Fence** shall be joined at a post by overlapping the geotextile 6 inches and wrapping it around the post before the post is driven. The wire shall be overlapped and wired to the post. After the **Silt Fence** is erected, the trench is backfilled and the backfill is tamped by wheel rolling with small equipment or foot traffic.

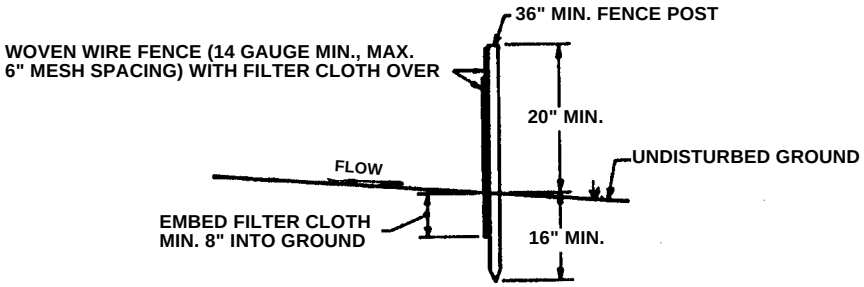
What maintenance is needed?

The **Silt Fence** must be inspected after every runoff event. Any damage must be repaired immediately. Sediment and other debris must be removed from the upstream side of the fence when it accumulates to the extent that visible bulges develop in the **Silt Fence**. The **Silt Fence** shall be removed after vegetation or other permanent erosion control measures are installed and functional.

Perspective View:



Section View:



NOTE: After a fire many trees are weakened from burning around the base of the trunk. The **trees can fall over or blow down without warning.** Shallow rooted trees can also fall. Therefore **be extremely alert when around burned trees**.

Data for this fact sheet was provided by NRCS, Davis, California.