



TEMPORARY EROSION CONTROL AROUND THE HOME FOLLOWING A FIRE

SILT FENCE

What is it?

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

Silt fences are easy to construct, and materials are available from hardware stores, nurseries, and lumber yards.

When is it 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

- 2:1 = 50%
- 3:1 = 33%
- 4:1 = 25%
- 5:1 = 20%
- <5:1 = <20%

Maximum Slope Length

- 50 feet
- 75 feet
- 125 feet
- 175 feet
- 200 feet

For longer slopes, add additional silt fences.

Drainage Area:

The area that contributes runoff to be caught by the silt fence should not be greater than 1/2 acre for 100 feet of fence.

Type of Runoff:

Silt fences are designed to catch runoff that is in the form of "sheet flow" and not "concentrated flow." Sheet flow differs from concentrated flow in that the runoff is spread evenly over the ground surface (like a sheet) rather than concentrated in small rills or gullies.

Methods and Materials:

Fence Posts:

Posts should be at least 36 inches long. Wood posts should be of hardwood with a minimum cross sectional 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 gage with openings no larger than 6 inches by 6 inches.

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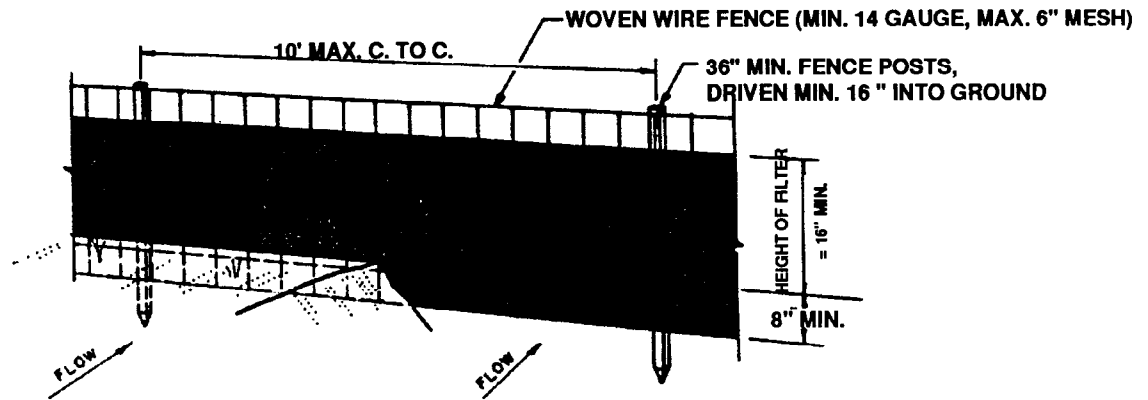
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Fabric Properties:

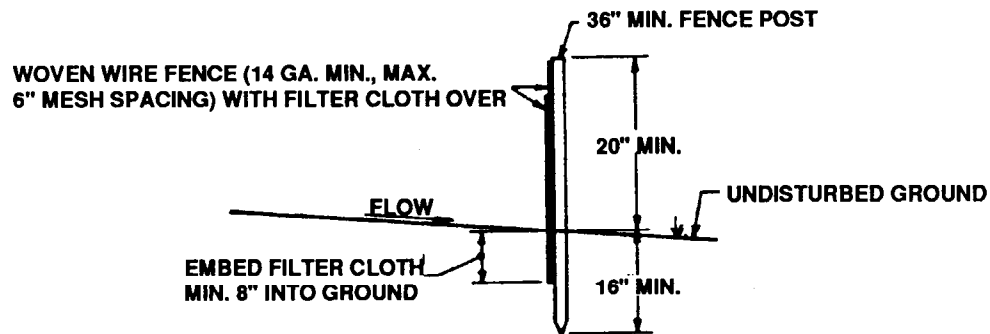
Filter fabric properties should be as follows (hardware store personnel can help you with these):

Fabric Property	Minimum Acceptable Value	Test Method
Grab tensile strength (LBS)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D751 (mod)
Slurry flow Rate (gal./min/sf)	0.3	
Equivalent Opening Size	40-80	US Std Sieve
Ultraviolet Rad. Stability	90	ASTM-G-26

Perspective View:



Section View:



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACES EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE...

POST: STEEL EITHER OR U TYPE OR 2' HARDWOOD

FENCE: WOVEN WIRE, 14 GA., 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140 OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

Where to get help?

Technical assistance is available from your local USDA Natural Resources Conservation Service office of your local Resource Conservation District regarding the use and installation of straw bale dikes and other treatments.