WISCONSIN
INSTALLATION STIPULATIONS FOR APPROVED PRODUCTS

Manufactured Perimeter Control and Slope Interruption Products

I. Definition

Manufactured perimeter control and slope interruption products include a variety of products designed to detain the flow of sediment-laden sheet flow runoff from small areas of disturbed soil. This document does not apply to silt fence or sediment bale barriers.

II. Purpose

The purpose of the installation of these products is to reduce uninterrupted slope length to slow the velocity of runoff so as to retain transported sediment from disturbed areas.

III. Condition Where Practice Applies

A. This standard applies to the following conditions:

1. Where only *sheet and rill erosion* occurs unless the product is listed as approved for use in concentrated flow areas (channel erosion) as a ditch check on the Wisconsin Department of Transportation (WisDOT) Erosion Control Product Acceptability list and designed and installed in accordance with WDNR Technical Standard 1062.

2. Where usage is limited to one year.

3. Where conditions allow for proper installation as outlined in the Criteria Section V.

B. Under no circumstance shall products be used in the following applications

1. Below the ordinary high watermark or placed perpendicular to flow in streams.

2. Where the maximum gradient upslope of the product is greater than 50% (2:1).

IV. Federal, State and Local Laws

Users of this standard shall be aware of potentially applicable federal, state and local laws, rules, regulations or permit requirements governing manufactured perimeter control and slope interruption products. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements. Only products approved by the Dept. of Safety and Professional Services will be accepted for use in this standard.

A. **Product Classes** – Products are organized into product classes based on product height. Product classes are specified in Table 1.

Table 1

Product Height Class	Installed Height Above Grade (inches)
Class I	Mat Products
Class II	6-9
Class III	10-15
Class IV	16-20
Class V	>20

B. **Orientation**– Log type products should be placed on the contour whenever possible but must be installed between 45° and 90° from the direction of flow. See Figure 1.

C. **Entrenchment**

1. *Log Type Products*

a) ~~Disturbed Ground~~ – log-type products installed on disturbed ground must be entrenched a minimum of 2 inches to ensure continuous ground contact.

b) ~~Vegetated Ground~~ – Log-type products installed on vegetated ground may be installed without

entrenchment. All gaps and ruts creating an undercutting situation must be filled with soil or sock filter material

c) Frozen Ground – No entrenchment required. Products to be used on frozen ground must be approved for use on frozen ground by the Wisconsin Department of Commerce

D. **Overlap** – 24 inches minimum or as required by the manufacturer if more restrictive. Overlap should be shingled in the direction of flow. See figure 1.

E. **Support** – Stake or anchor as required by the manufacturer or as specified under the approval.

F. **Product Stacking** – Products shall not be stacked individually on top of one another. Products may be stacked in a "pyramid" manner (i.e. one on top of two). If sediment accumulates to ½ the height of the sock, then a second sock may be stacked immediately upslope of the original in lieu of removing the sediment.

G. **Maximum Spacing –** The spacing in direction of slope shall not exceed the maximum slope lengths for the appropriate slope as specified in Table 2

Table 2

	Max Spacing (ft) per Product Class				
Slope	**I**	**II**	**III**	**IV**	**V**
0-2%	30	30	55	75	100
2.1-5%	25	25	40	55	75
5.1-10%	15	15	30	40	50
10.1-33%	NA	10	15	20	25
>33%	NA	5	10	15	20

Notes:
1. NA = Not Allowed
2. All products installed on frozen ground shall conform to CLASS I maximum spacing requirements.
3. Products from a higher class are suitable for applications in a lower class.
4. Manufactures recommendations for maximum slope and maximum spacing should be used if more restrictive than the guidelines established above.

VI. Considerations

A. Products should be considered for trapping sediment where sheet and rill erosion may be expected to occur in small drainage areas. Products should not be placed in areas of concentrated flow unless the product is listed as a Ditch Check on the Wisconsin Department of Transportation (WisDOT) Erosion Control Product Acceptability list and designed and installed in accordance with WDNR Technical Standard 1062.

B. Products should be installed prior to disturbing the upslope area.

C. To protect products from damage in areas of active construction or heavy traffic, products should be flagged, marked or highlighted to improve visibility.

D. To help ensure effectiveness, products should be inspected and repaired as necessary prior to forecasted rain events.

E. Vehicular traffic shall be diverted around the product.

VII. Plans and Specifications

A. Plans and specifications for installing products shall be in keeping with this standard and shall describe the requirements for installing the product to achieve its intended purpose. The Plans and specifications shall address the following:

1. Location of product
2. Contributory drainage area
3. Schedules
4. Product specifications
5. Standard Drawings and installation details
6. Restoration after Removal

B. All plans, standard detail drawings, or specifications shall include schedule for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

A. Products shall be inspected at least weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24 hour period

B. If ruts develop under the product, the voids shall be backfilled with soil and compacted to establish continuous contact between the ground and product

C. If sediment reaches ½ of the log type product height, the sediment shall be removed or a second log type product may be positioned immediately upslope and in contact with the original log type product

D. If a product rolls out of position, the product shall be repositioned and secured with additional stakes

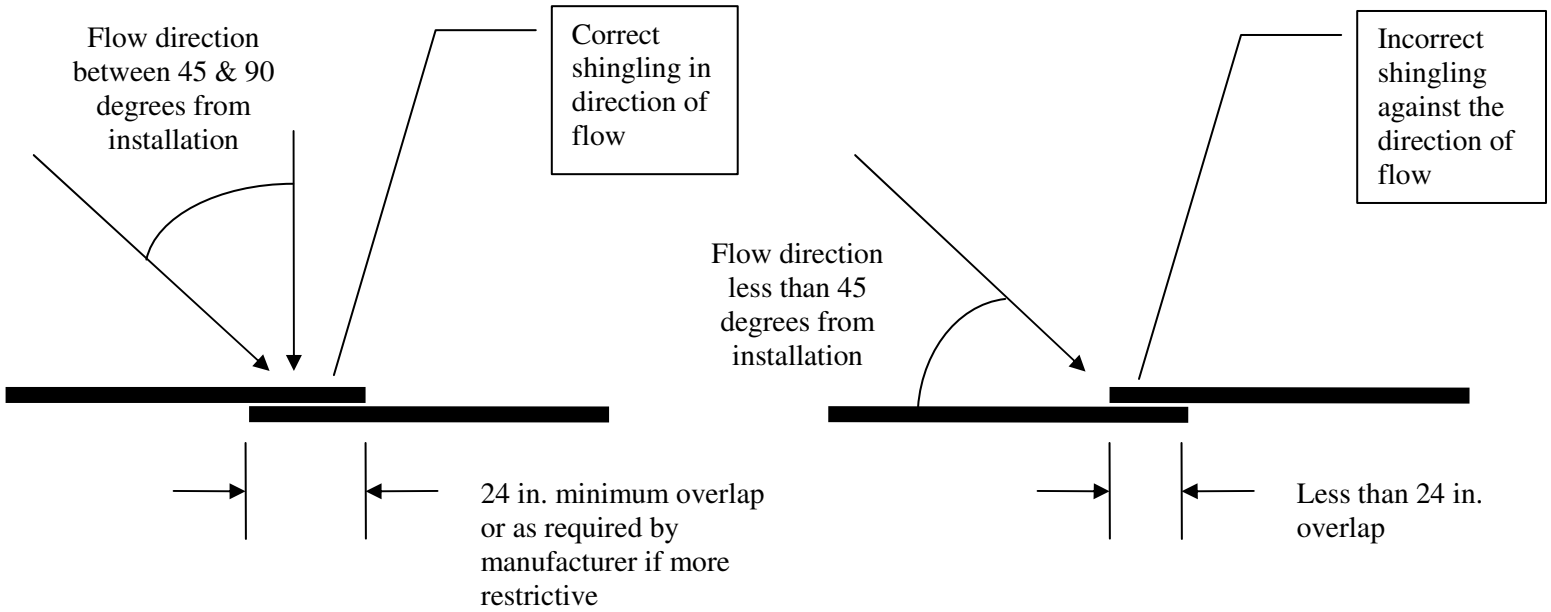
E. Tears in the fabric of a log-type product may be repaired by wrapping a new piece of fabric around the sock and securing or by placing a second log product immediately upslope with a minimum 24" of overlap beyond the tear

F. Pinched or deformed log products shall be re-contoured to their original diameter by hand if possible or a second log product shall be placed immediately upslope with a minimum 24" overlap beyond the deformation

IX. Definitions

Channel Erosion: The deepening and widening of a channel due to soil loss caused by flowing water. As rills become larger and flows begin to concentrate, soil detachment occurs primarily as a result of shear.

Sheet and Rill Erosion (III.A.1.): Sheet and rill erosion is the removal of soil by the action of rainfall and shallow overland runoff. It is the first stage in water erosion. As flow becomes more concentrated rills occur. As soil detachment continues or flow increases, rills will become wider and deeper forming gullies.



CORRECT INSTALLATION EXAMPLE

INCORRECT INSTALLATION EXAMPLE

FIGURE 1