

ROLLED PERIMETER CONTROL

CODE 912

DEFINITION

A temporary barrier of an entrenched rolled perimeter sediment control product used to intercept sediment laden sheet flow runoff from relatively small and flatter areas of disturbed soil so as to settle out suspended soil particles.

PURPOSE

The purpose of this practice is to cause interception and deposition of transported sediment load from sheet flow leaving construction site disturbed areas.

CONDITIONS WHERE PRACTICE APPLIES

1. On active construction sites where runoff occurs causing sheet flow erosion from small disturbed areas.
2. Where adjacent downstream undisturbed areas are to be protected from sheet flow, silt laden runoff.
3. The practice does not apply to concentrated flow such as rivulets and channelized flow.
4. Where the upslope area is relatively uniform and the contours (lines of equal elevation) are relative straight)

CRITERIA

The maximum drainage area for overland sheet flow to a rolled perimeter control product shall not exceed ¼ acre per each 100 feet of product. The minimum effective height of the product shall be 12 inches or greater. For drainage areas 1/8 of an acre or less the

effective product height may be less than 12 inches.

For larger disturbed areas refer to IUM STANDARD 920 SILT FENCE.

For areas of concentrated flow such as rivulets, streams, swales, or ditches refer to IUM STANDARD 814 MANUFACTURED DITCH CHECKS

The rolled perimeter product shall be installed prior to the clearing of existing vegetation and grading work if the clearing results in the exposure of bare soil.

The installed product shall be placed as close to the contour as possible, with the ends the install extending upslope.

The maximum allowable slope distances contributing runoff to a rolled perimeter product are listed in the following table: _

Slope (%)	Maximum Spacing along Slope (ft.)
25 (4:1)	25
20 (5:1)	35
15 (6.7:1)	60
10 (10:1)	80
Flatter than 10	100

When one row of the product is used, or it is the last in a series, the area below the fence must be undisturbed or stabilized.

When product overlaps occur, the product shall be overlapped a minimum of 2 feet to prevent silt-laden water from escaping around, or beneath the rolled product.

Rolled perimeter control products must be entrenched into the soil a minimum of $\frac{1}{4}$ of the rolled product diameter or a minimum of three inches whichever is greater. For steep slopes, such as embankments or soil stockpiles, and large sized products the trenched material shall be placed against the down slope side to meet the minimum entrenched depth and the soil compacted to 95% Proctor.

The rolled product shall not cross contours in order to minimize concentrated flow and erosion along the upslope side of the product and more broadly distribute sediment deposition

Rolled perimeter control products must be secured in place with stakes. When staking, ensure good soil contact for the full length of the rolled product. Stakes shall be placed on the back side of the product, either through the netting on an angle to support the rolled product in the trench, or against the downslope side of the product at an angle that will secure the product in the anchor trench. Rolled products used on slopes 4 (length) to 1 (height) or greater, stakes shall be spaced apart at 5' maximum intervals

CONSIDERATIONS

Rolled products are fabricated from a variety of materials and may have infiltration capabilities

Polyacrylamides can also be used to enhance the performance of rolled products by controlling soil erosion and limiting sediment accumulation at the perimeter control. Refer to IUM STANDARD 893 POLYACRYLAMIDE (PAM) TEMPORARY SOIL STABILIZATION.

Installation elevation tolerances need to be considered. Any lower top elevation deviation may inadvertently result in

concentrated flow and failure reduced effectiveness of the installation. The upslope curling of the end sections is important to avoid the formation of concentrated flow occurring where the ground line is lower than the top of the product elevation

It is recommended that the effective height of the installed product be increased to account for discrepancies such as grading tolerances and variance in rolled product height that would result in an inconsistency of the product top elevation.

Where space allows, rolled perimeter products at the end of a slope should be placed an adequate distance from the toe of embankment or stockpile to allow for sediment storage.

The rolled product material (casings or fill) shall not contain or emit any pollutant that is harmful to the environment.

PLANS AND SPECIFICATIONS

Plans and specifications for installing the rolled perimeter product shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. At a minimum include the following:

1. Location(s) where the product is to be installed.
2. The type, size, spacing, material and depth product
3. The product installation specifications.
4. The method of anchoring the product.

All plans shall include the installation, inspection, and maintenance schedules with the responsible party identified.

The rolled product shall be removed once upslope areas have been permanently stabilized.

The installation shall be inspected no less frequently than every week during construction. Should any part of the product installation (fabric, stakes, backfill seal, etc.) become ineffective prior to the required duration of its use, the individual part, or the entire system shall be replaced promptly.

Sediment deposits shall be removed when the level of deposition reaches no greater than one-half the height of the effective height of the product.

Any sediment deposits remaining in place after the rolled product installation is no longer required shall be dressed to conform to the existing grade, a seedbed prepared, and the site vegetated. Refer to IUM STANDARD, PERMANENT VEGETATION 880

REFERENCES

Minnesota Stormwater Manual 2018

Wisconsin DNR, Practice Standard
Interim Manufactured Perimeter Control
and Slope Interruption Products,
11/2010

Urban Drainage and Flood Control
District, Urban Manual Drainage Criteria
Manual, Volume 1, Sediment Control
Log SC-2, November 2010