

What Level of Control Do You Need?

Prevention of soil loss is the first priority for erosion control products. Establishing vegetation as quickly as possible for long-term erosion control is the second priority. Since different products prevent soil loss to varying degrees, matching the right product to a given situation requires that you understand how to calculate potential soil loss—and then determine the degree of protection required to prevent the loss. The information in the sheet below is intended to help you understand those calculations when quantifying slope erosion potential.

SOIL LOSS COMPUTATIONS Revised Universal Soil Loss Equation (RUSLE) $A = R \times K \times LS \times C \times P$

Where:

- A = computed soil loss per unit area per unit time for a given storm period and intensity
- R = rainfall factor
- K = soil erodibility factor
- L = slope length factor
- S = steepness factor
- C = vegetation or cover factor
- P = erosion control practice factor

COVER OR "C" FACTOR

- Calculated as soil loss ratio of treated surface versus an untreated control surface
- Several variables may be evaluated such as:
 - Slope Angle (2H:1V, 3H:1V)
 - Soil Type (sand, clay, loam)
 - Design or Rainfall Event (in/hr or cm/hr)
 - Duration of Event (1/2 hr-1 hr)
 - Application Rate (lb/ac) or Method of Installation
 - Time After Installation
- ***Lower C-Factor means More Effective***

PERCENT EFFECTIVENESS (PE)

- $PE = 1.00 \text{ minus } C\text{-Factor} \times 100\%$
- For example:
 - C-Factor = 0.05
 - % Effectiveness = $1.00 - 0.05 = 0.95$
 $0.95 \times 100\% = 95\%$