

BMP 56.00. Tackifier

DESIGN CONSIDERATIONS

Objectives

Tackifiers are used as a bonding agent for soil, compost, seed, and/or mulch to aid in the stabilization process.

Description

Tackifiers can be either organic (derived from natural plant sources) or synthetic. Tackifiers are frequently pre-mixed with mulch fiber blends used in Hydraulic Erosion Control Products (HECPs).

Applicability

When used alone, Tackifiers can temporarily stabilize bare soils for short term erosion control. Tackifiers are most commonly used where temporary dust and erosion control is required. Hydraulically applied Tackifiers must be applied in conditions where they will cure or dry to be effective. Mulch may be used with Tackifiers to increase their functional longevity and assist in the application process by acting as a visual tracer during the spray installation.

Plant based Tackifiers may be used as stand-alone, temporary soil stabilization.

Chemical based Tackifiers may only be used in combination with sediment trapping measures down gradient of treated areas designed to retain sediment and potential chemicals that may be dislodged and become entrained in site runoff.

The functional longevity of Tackifiers will be dependent on climate and traffic impacts - foot, vehicle, and animal.

Selection Considerations

- Application rates and climate conditions will affect the functional longevity of all Tackifiers. Functional performance and longevity can be increased with the addition of mulch fiber. All applications must follow the manufacturer's specifications for application rates.
- Synthetic Tackifiers often include polyacrylamides (PAM) and designers must determine whether the synthetic Tackifier is anionic or nonionic. Cationic PAM in

Tackifiers is not permitted as it can be hazardous to aquatic life.

- Tackifiers containing PAM products will require documentation approving the products use by the U.S. Environmental Protection Agency (EPA) for potable water or by the states of California, Minnesota, Oregon, Washington, or Wisconsin for use in controlling erosion or sediment runoff from agricultural land or construction projects.
- The use of Tackifiers must strictly comply with the terms and conditions of the Alaska Construction General Permit (Alaska CGP). Tackifier use is limited to soil areas only and must meet the treatment chemical requirements for land applications contained in the Alaska CGP.
- When using chemical based tackifiers, typically PAM based, the CGP requires the following conditions.
 - Operators must provide notification on the Notification of Intent (NOI) or a modified NOI of their intention to use chemical treatment.
 - Site personnel must be trained in the proper handling and use of the specified chemical. Their names and titles must also be included in the site Storm Water Pollution Prevention Plan (SWPPP).
 - Proper site storage in leak proof containers under storm resistant covers surrounded by secondary containment will be necessary.
- While most Tackifiers are hydraulically applied, granular application can be performed; however, uniform application rates may be difficult to achieve.

Design

When Tackifiers are used as an interim, temporary control measure during construction, the ground must be reworked prior to applying seed and mulch. See BMP-58 Temporary Seeding and BMP-53 Permanent Seeding.

Relationship to Other Erosion and Sediment Control Measures

Tackifiers can be applied alone or can be used to bond mulch fibers, such as straw or wood, to each other and the soil. Dyes or dyed mulch fiber may be used as a tracer or indicator to determine where Tackifiers have been applied and to ensure adequate coverage. Tackifiers may be applied over surface roughened (track walked) soils, stockpiles, compost, soil amendments, and other areas that will remain unworked and unstabilized for a limited period of time. Manufacturer's guidance must be consulted to determine the functional longevity of Tackifiers in various climatic conditions.

Common Failures or Misuses

- Under-application (not enough Tackifier applied) and traffic across treated areas are the leading causes of failure of properly specified Tackifiers.
- Not all commercially available products will perform the same in all situations. Soils testing for product applicability may be necessary to ensure desired results.
- Weather will be the major contributor to Tackifier longevity. Precipitation, break-up, and freeze-thaw cycles will all contribute to the degradation of Tackifiers in the field

SPECIFICATIONS

Standard Specification

- 657 Tackifier
- 752 Tackifier