



HAUL ROAD-TOP SEAL™ Liquid Soil Sealant and Stabilizer

HAUL ROAD TOP-SEAL

QUARRIES – MINES – LOGGING ROADS – MILITARY ROADS – PARKING LOTS

Haul Road Stabilization and Dust Control Program

HR-TS™ (Haul Road - Top Seal™) . . . is a program using a powerful, environmentally safe, liquid soil binder that permanently attaches itself to dust particles and tightly binds them together. Simply diluted with water in a water truck, HR-TS™ is applied directly to the soil and compacted. An irreversible curing process will then transform HR-TS™ into a permanently hardened soil base.

STOP WASTING WATER! Controlling dust pollution with daily water truck operations is a losing battle. As the water quickly evaporates from the soil, the dust pollution returns, and there is very little reward for the lost efforts and precious water resources.

LESS EXPENSIVE THAN WATER. With the HR-TS™ program, an initial application and occasional maintenance applications will provide a continuous and permanent accumulation of the product into the soil. Eventually, the dust particles will be overwhelmed by the presence of HR-TS™, and the frequency between maintenance applications and the cost of controlling dust pollution will be progressively reduced.

GUARANTEED RESULTS. With the HR-TS™ program, dust is significantly reduced or eliminated with an initial application, and it is permanently kept under control with occasional maintenance applications on an “as-needed” basis. Re-applications of HR-TS™ will bond with previous ones, thereby cumulatively reducing the need for future treatments.



INTERNATIONALLY RECOGNIZED



Featured on the cover of *Aggregates Manager* magazine, Terra Pave's former

version of HR-TS™ was internationally recognized for its excellent performance in controlling dust pollution at a large quarry in North Texas. The **lower left photo** on this page shows the same quarry prior to entering into a program with HR-TS™.

EQUIPMENT and ON-SITE ASSISTANCE.

HR-TS™ is available in 55 gallon drums (208 liters), or in 250 or 330 gallon totes (1,250 liters), and can be diluted up to 9 times during an initial application, depending on soil type and desired results.

The basic item of equipment that is needed for distribution of HR-TS into the soil is a water truck with a good spray bar. Transfer pumps and spray bars are available from EEI International at a very modest price, or for free when ordering by truck loads or containers. These items will help facilitate a quick and smooth transfer of the product into a water truck and into the soil.

If general reconstruction and permanent re-shaping of a haul road is desired, then other types of equipment, such as a motor grader and a compactor are highly recommended. (See “Application Procedures” on back side of this sheet.)

Free on-site technical assistance is available for new customers with HR-TS™. Hot-line assistance from Eco Estates International's main office is available at all times.

ADVANTAGES OF HR-TS™ OVER DAILY WATERING OPERATIONS:

- ◆ Permanently eliminate dust pollution.
- ◆ Reduce expenditures for dust control operations by as much as 50 percent.
- ◆ Reduce or eliminate continuous daily operations of a water truck.
- ◆ Eliminate frequent reconstruction of haul roads.



HR-TS™ PAYS FOR ITSELF. Although there are many variables to consider in a haul road program, the cost of the first year of a dust pollution control program with HR-TS™ will generally not exceed the actual or estimated cost of daily watering and reconstruction operations. After the first year, the cost of a continuing service program with HR-TS™ is GUARANTEED to be significantly lower than daily watering operations, and over a period of several years, the savings can accumulate to as much as 50 percent or more.

With an initial application of HR-TS™, dust pollution is immediately eliminated, and with occasional maintenance applications, it is permanently brought under control. Terra Pave International recommends that haul road managers undertake their dust control programs with HR-TS™ in segments of approximately one mile at a time. With availability of sufficient equipment and personnel, a mile of a typical county road of approximately 20 feet width can be treated and finished in a single day. The savings that are derived from using HR-TS™ in the early stages of a dust pollution control program can then be redirected into future segments, thereby assuring the advantage of programming the product to pay for itself.

THE HR-TS™ DUST POLLUTION CONTROL PROGRAM. There are two phases in the HR-TS™ dust pollution control program. The first is the **initial application**, and the second is the **maintenance program**. An initial application of HR-TS™ will produce immediate results and a continuing maintenance program on an “as-needed” basis will insure permanent success. A substantial amount of product is used during the first phase in order to cover and control the majority of the dust. In the second phase of the program, the product is considerably more diluted, and therefore, significantly less expensive per square yard. The higher dilutions during the maintenance phase allows the product to penetrate more effectively into the previously hardened road base as it tackles newly worn areas, or areas with new contamination blown in by the wind or carried in by heavy traffic.

First Year: The first year of a Dust Pollution Control Program with HR-TS™ will consist of a one-time initial application and a series of maintenance applications routinely occurring on an as-needed basis. In a typical haul road environment, the cost of controlling dust with HR-TS™ during the first year is expected to be less than the alternative cost of daily water truck operations.

Second And Subsequent Years: Maintenance applications will continue throughout the second and subsequent years on a progressively less frequent basis. There will be a continuing buildup of HR-TS™ in the soil as the dust becomes heavier and much less likely to become airborne. This trend will continue into the future years and will eventually reach a point in which the budget for controlling dust pollution will only be a fraction of what it was for reconstruction and daily water truck operations.

APPLICATION PROCEDURES FOR HR-TS™. No special equipment or handling procedures are required for using HR-TS™. The product is simply and easily applied with routine construction equipment. This would include a **motor grader, water truck**, and a **compactor**. There are two primary methods for installing HR-TS™ into a haul road base.

1. **Preferred Method:** Scarify the road base to a depth of approximately 6 inches. Scarification will provide a deeper and more thorough penetration into the road base. Apply HR-TS™ in several passes and allow it to saturate into the road base. Compact as thoroughly as possible.
2. **Alternative Method:** Make multiple applications of highly diluted concentrations of HR-TS™ directly into the surface of the road. This method is used when reconstruction of a county road is not preferred or equipment is not available. The more highly diluted form of the product will result in a deeper penetration; however, the penetration will not be as deep or as thorough as with scarification.
3. **Maintenance Applications:** The maintenance program with HR-TS™ will be the same regardless of which method is used during the initial installation of the product. Generally, there is no requirement for reconstruction of haul roads during maintenance applications.

SERVICES from ECO ESTATES INTERNATIONAL.

- ◆ Cost analysis of current water truck operations.
- ◆ Detailed estimates for HR-TS™ Dust Control Program.
- ◆ Free on-site technical consultations.
- ◆ On-site monitoring and progress reports.



WEB: www.ecoestates.us builder@ecoestates.us
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