

# Introducing the *Friendly Material:* Rotary Kiln Produced Lightweight Soil Conditioner



*Decorative Ground Cover & Mulch*



*See Starter & Potting Mix*



*Elevated Plaza  
Lightweight Fill & Drainage Vehicle*



*Golf Greens & Lawns  
Soil Conditioner & Drainage Medium*

## ***Friendly to Our Environment: Gardens, Lawns, Shrubs, and Trees Grow Right and Look Great!***

Lightweight Expanded Shale, Clay and Slate (ESCS) soil conditioner is playing a new and valuable role in today's horticulture. Produced by firing shale, clay, or slate in a rotary kiln at temperatures in excess of 2000°F, this fully calcined, ceramic material offers superior solutions of many of today's horticulture problems.



## **Non-Toxic**

Lightweight ESCS soil conditioner is clean, odorless, and contains no toxic minerals that could be damaging to plant or animal life.

## **100% Inert**

ESCS is ceramic, 100% inert and completely inorganic. It can be blended with other soil supplements. It will not compress, decompose, or react with agricultural or horticultural chemicals. This fully calcined material is highly predictable, consistent, and stable over time under varying soil conditions.

## **Strong and Durable**

The material is strong and will not degrade during shipping, handling, or use in hydroponic or ground cover applications.

## **Insulates**

ESCS's low density acts as an insulator in the soil matrix protecting plants from rapid temperature extremes. When used as a mulch, ESCS insulates the plant root system from heat and freezing temperatures, thus helping the plant survive severe weather conditions.



*Lawn without ESCS... and with ESCS*

## **Environmental Buffer**

Lightweight ESCS soil conditioner provides an excellent environment for healthy root structure. ESCS retains as much as 12% to 35% of its weight in absorbed water and water-borne nutrients. Water and nutrients are steadily released as the soil dries. This creates a buffer to help protect plant life from high concentrations of chemicals and persistent drought. These characteristics also help prevent soil cracking and crusting.

## **Aerates Soil**

ESCS's porous micro-surface texture and interior porous structure resist clogging and provide superior aeration that promotes growth of delicate, fine root systems. Problems of soil compaction are significantly reduced when ESCS is properly proportioned within the soil. The soil remains resilient because moisture and air movement are not restricted. ESCS provides the optimum condition for fast, healthy plant growth.

## ***Friendly to Users: Lightweight ESCS Soil Conditioner is the Preferred Consumer Choice!***

## **Light in Weight**

Lightweight ESCS soil conditioner weighs only one-third the weight of regular rock or sand – a definite advantage when transporting, handling, and installing the material! Yet it is heavy enough not to blow or wash away under normal weather conditions. The material does not float up or sink out of blended medium.

## **Sterile**

ESCS is sterile because it is produced at temperatures in excess of 2000°F. It is free of insects, disease, weed seeds, and soil-borne pests. It is ready to use without steam sterilization or chemical treatment.

## **pH Factor**

ESCS can be either slightly acidic or alkaline. It can be easily changed or "charged" with chemical supplements to any acidic or alkaline condition, depending on the pH requirements of the growing medium. It offers exact, dependable balancing of chemicals for rapid growth.

## **Custom Mixtures and Blends**

ESCS comes in a variety of sizes that can be blended for custom field conditions to achieve optimum pore structure and oxygen levels at the root zone.

## **Low Maintenance**

Areas properly landscaped with ESCS require no refurbishing. When used as a ground cover, ESCS should be placed over geotextile fabric to prevent the growth of grass and weeds.

## Multiple ESCS

### Applications:

- Gardens & Lawns
- Golf Courses & Ballfields
- Urban Trees
- Elevated Parks & Plazas
- Potting Medium
- Top Dressing & Mulch
- Roof Gardens
- Window Boxes
- Hydroponic Medium

## Decorative Ground Cover and Mulching Material

This colorful, decorative ground cover comes in a variety of natural colors that provide the perfect background for landscaping shrubbery. Because of its neutral "all natural" color range, ESCS blends with its surroundings. Whether for walkways, garden enhancements, or ground cover, it hides unsightly or hard-to-maintain soil. ESCS soil conditioner works well as the mulching material around trees and shrubs. It helps prevent rapid evaporation of soil moisture, especially in dry weather. Color modification is also available, depending on the supplier.



Landscape design by Arnold Associates

Trees in downtown Brooklyn, New York, are planted in a soil mixture 2' deep, containing 50% ESCS to sustain heavy pedestrian use.

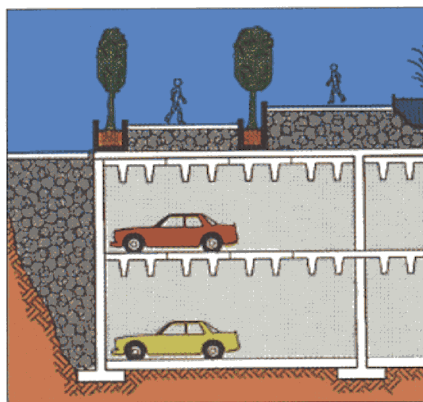
Lightweight ESCS fill and soil conditioner makes elevated parks and plazas possible.



During Construction

## Design Freedom

Architects and engineers have greater freedom in design when using Lightweight ESCS fill and soil conditioner. By reducing the dead load, it is possible to construct elevated parks, landscapes, and rooftop gardens without excessive structural cost. The tops of buried parking structures, water tanks, and marshland areas can readily be converted to lush, beautiful gardens and recreation areas. ESCS fill is also used to reduce pressure behind retaining walls, to insulate underground structures, and to provide a stable drainage medium.



Lightweight ESCS fill reduces dead load and structural cost.

## Potting Soil

An excellent potting soil can be produced by blending ESCS, organic components, and soil in approximately equal proportions. Potting plants use ESCS soil conditioners to help insure healthy growth. A generous layer in the bottom of solid-bottom pots will absorb excess water when plants are slightly over-watered. A layer of Lightweight ESCS in the bottom of



After Construction

pots with holes will hold the potting soil in place and still allow proper drainage and root development. Use ESCS to cover the top surface of the pot to give a neat, attractive appearance. ESCS will retain moisture and reduce the need for frequent watering while allowing good airflow.

## Hydroponic Medium

When used as a hydroponic medium, ESCS provides a reusable medium for water and nutrient passage. ESCS can be shaken free from roots, sterilized, and used repeatedly.



ESCS, as a hydroponic medium, is non-degrading and works well with drip systems, flood systems, and planter sub-base.

## Bottom-Line Cost Effective

ESCS is typically less expensive than competitive products in any given application. Additional savings may be realized with reduced water usage, better plant performance, reduced dead load, lower maintenance, and lower shipping costs. **Pound for pound, you get more for your money and pay less freight with lightweight ESCS soil conditioner.**

## Design and Material Considerations

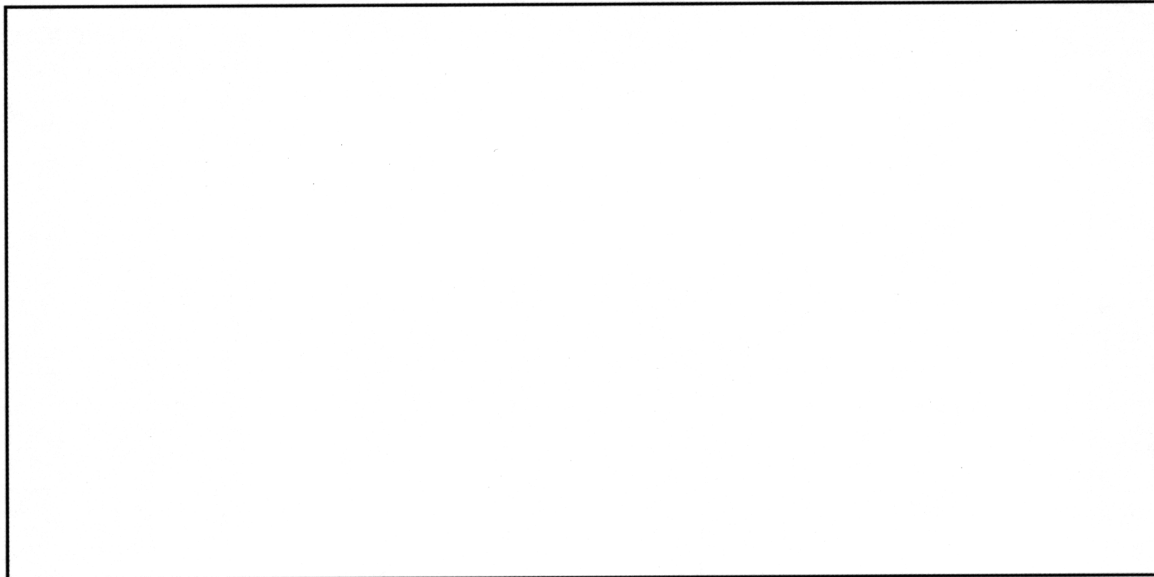
Originally patented in 1918 as Haydite, Expanded Shale, Clay and Slate Lightweight Soil Conditioner is the environmentally sensitive natural product of the future. Its technology has been tested as a growing medium in hydroponics, drainage, soil conditioning, cover material, and as a responsive carrier to conditioning chemicals.

The physical properties for lightweight ESCS soil conditioner may vary according to manufacturer. For precise information on mix design, unit weight, and other physical properties of a particular material, consult with a rotary kiln ESCS producer in your area.



*Lightweight ESCS soil conditioner and fill is produced in vary gradations, textures, and colors. It is readily available and can be shipped long distances because its density is less than half that of normal sand or gravel.*

For additional information about ESCS Soil Conditioner, contact ESCSI or your local producer/supplier.



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***ESCSI***

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