Accessible Trail and Path Construction with Enviroseal M10+50

Accessibility for all

With thousands of miles of nature trails and pathways throughout the USA, there are plenty of opportunities to explore beautiful natural environments. For folks with disabilities, these options can be limited if handicapped accommodations aren’t taken into consideration.

Accessibility is an important part of trail development because it ensures nature trails are available to all groups including the young, elderly, and people with disabilities.

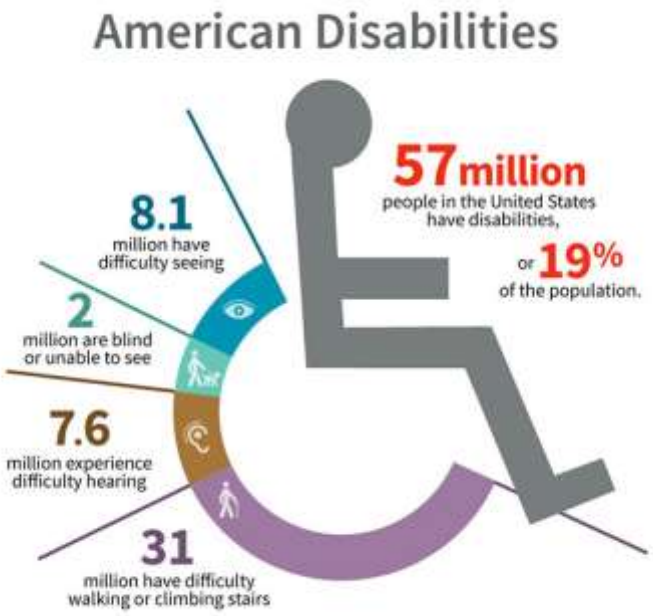
If a trail is required to be accessible, it must feature a surface suitable for individuals who use wheelchairs or other mobility devices. This means the walking surface must be firm, stable, and at least 36 inches wide. Loose fill or surface gravel typically does not meet accessibility regulations.

ABA and ADA

When it comes to accessibility, the Americans with Disabilities Act (ADA) and the Architectural Barriers Act (ABA) are critical in ensuring access for individuals with disabilities, they serve different purposes and apply to different types of buildings and spaces.

- **ABA** requires that buildings and facilities designed, built, or altered with federal funds be accessible to individuals with disabilities. The ABA's goal is to ensure that federal facilities are usable by all citizens, including those with disabilities.

- **ADA** is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including employment, education, transportation, and public and private places open to the general public.



What are Accessible Trails?

According to ADA and ABA guidelines, a trail surface must be "firm and stable," meaning it should resist deformation from foot traffic and not be significantly affected by weather conditions, essentially providing a solid and reliable walking surface for individuals using wheelchairs or other mobility devices.

Walking paths and nature trails built for recreational purposes are subject to less stringent standards than road construction. While concrete and asphalt are common materials for creating handicap-accessible trails, they may not always be suitable or cost-effective options.

There is no “one-size-fits-all” solution for constructing trails that comply with federal accessibility guidelines. Access needs vary greatly among individuals with disabilities; what is accessible for one person may not be for another.

Non-Accessible Trails

.

A non-accessible trail does not meet the requirements set forth by ADA and ABA accessibility standards.

Unfortunately, not all soil and aggregate surfaces can comply with these requirements due to their lack of firmness, stability, and slip resistance.

Such surfaces create significant challenges for individuals with mobility limitations, especially those who rely on wheelchairs, canes, crutches, or walkers.

What is M10+50 and how does it work?

Enviroseal M10+50 was originally developed as a soil stabilization binder for constructing unpaved runways in military applications. This blended acrylic copolymer is supplied as a concentrate and diluted with water prior to use. Once applied, the water evaporates, allowing the polymers to coalesce from a liquid into a solid state, effectively binding soil and aggregate together. The result is a tough, durable, and impermeable mass.

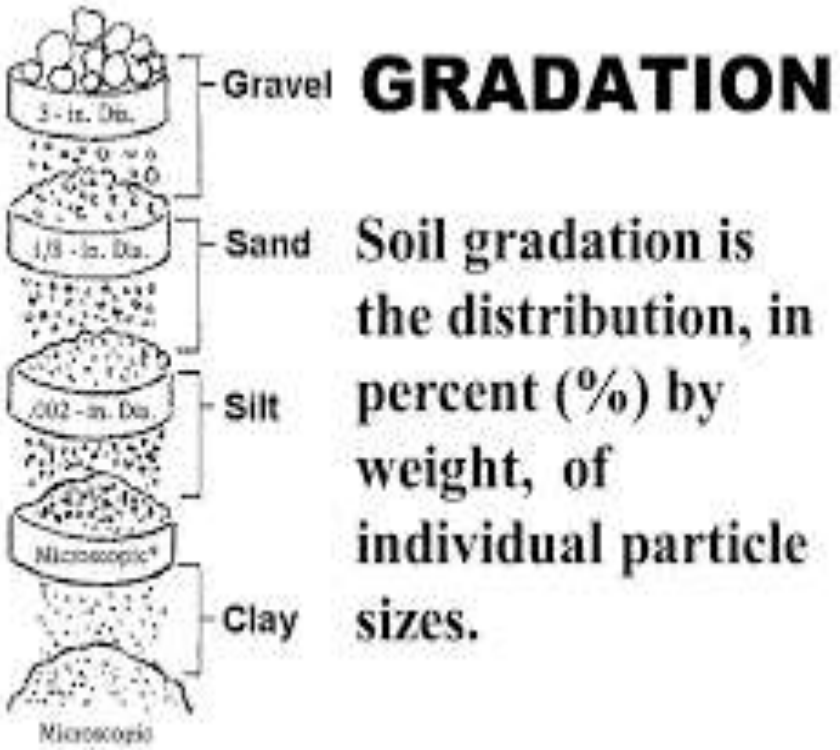
When blended with natural soil or aggregate, M10+50 enables the rapid construction of trails and pathways that meet requirements for firmness and stability.
The installation process is straightforward and can be completed using standard construction equipment.

Aggregate Mix

The content and uniformity of the soil or stone mix is an important factor to ensure the overall quality and end results. Naturally occurring in-situ material with high plasticity or those that do not have a uniform gradation of granular and fines are not acceptable.

Enviroseal recommends ½” minus crushed aggregate or recycled concrete with hard, durable, sharp-edged fragments that are free from dirt and organic matter.

Natural soils that do not meet gradation requirements may be modified by importing sand, gravel, or fines and blended with the soil beforehand.



How much M10+50 and Water?

M10+50 is calculated as a percentage of the soil dry density weight. The recommended dosage rate for estimating purposes is Ten Gallons per cubic yard which equals about 3% of the soils dry density weight.

The amount of water to mix with M10+50 will depend on two factors, the In-Situ Moisture content (ISM) and the Optimum Moisture Content (OMC) required for compaction. On average, most soils require about 10% moisture for proper compaction.

Knowing the OMC and the IMC is necessary before beforehand since the addition of moisture includes both M10+50 and water. The amount of water to mix with M-10+50 is the difference between ISM and OMC.

As an example, a soil that has a dry density weight of 3,250 pounds per cubic yard with an ISM of 4% will require adding 6% moisture to achieve OMC. Using an application rate of 3% M10+50 plus 3% water combined with the 4% ISM totals 10% which is required for OMC.

The average density of M10+50 is 8.5 pounds/gallon meaning about 11.5 gallons of M10+50 per cubic yard would be used. Water weighs 8.34 pounds per gallon and 3% of the soil dry density weight equals about 11 gallons of water.

Installation Process

There are three basic steps for using M10+50

1. **Mix Thoroughly**
2. **Grade/Compact**
3. **Topical Treatment**

Mixing
Requires blending M10+50 and
Water with the soil/aggregate.

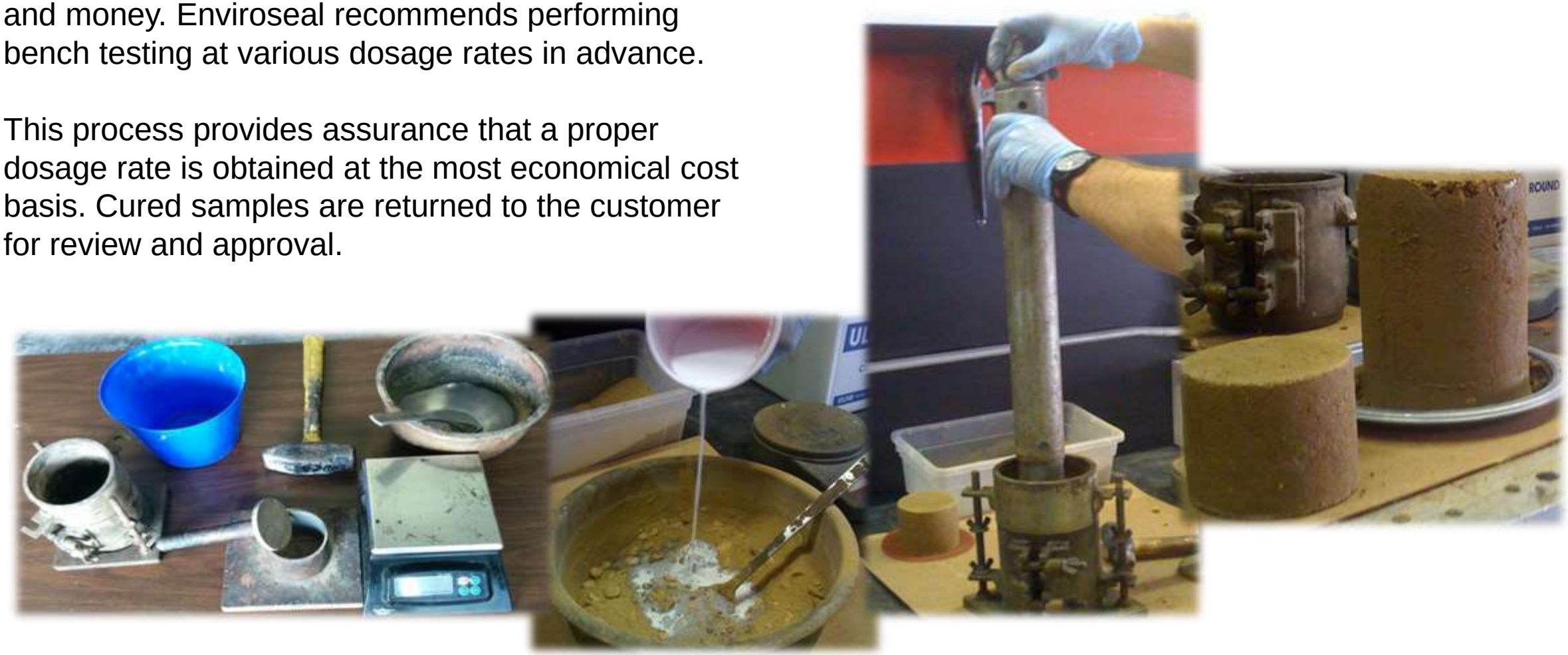
Grade/Compact
Grade and compact to +95% density.

Topical Treatment
Apply a topical coating after compaction to seal the surface

Bench Testing

Site conditions vary from one location to the next and knowing what to expect beforehand saves time and money. Enviroseal recommends performing bench testing at various dosage rates in advance.

This process provides assurance that a proper dosage rate is obtained at the most economical cost basis. Cured samples are returned to the customer for review and approval.



Contact Enviroseal

Contact Enviroseal for assistance with design or construction guidelines, wholesale pricing, and general product information.

Enviroseal ships M10+50 worldwide in 275-gallon IBC totes and 55-gallon drums.

500 Farmers Market Rd., # 18
Fort Pierce, FL, 34982
772 323 5400

www.enviroseal.com info@enviroseal.com