

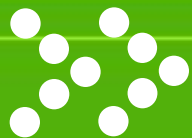


# POLYVEN INTERNATIONAL, LLC



## MCX3000 Technology





# MCX 3000 Enzyme

[www.polyven.org](http://www.polyven.org)

MCX 3000 is one of the world's finest products for road stabilization.

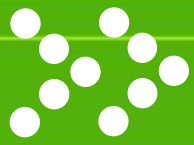
MCX 3000 is a unique, soil-stabilizing product with the potential to significantly reduce your overall costs for road construction and maintenance. MCX 3000 is a non-toxic formulation of enzyme-rich materials that is manufactured through a natural fermentation process using only sugars and other 100% natural, organic compounds.

When mixed with water and applied during compaction, MCX 3000 acts upon the soil's organic fines through a catalytic bonding process producing a strong cementation effect. The result is a durable and water-resistant mix that can be used in any climatic environment as a sub-base or as a primary surface. Typically, the bonding process will be sufficiently cured within 72 hours to permit a road's use by normal traffic.

The product is both safe and convenient to handle. It is highly concentrated and is available in handy 5-gallon containers. Only 15 gallons of MCX 3000 are needed for a one-mile road surface, 25-feet wide and 6-inches deep. No special construction or handling equipment is required to apply MCX 3000, only a blade or mixer/re-claimer, a water truck and a roller.

Because the enzymes in MCX 3000 interact with a wide variety of soil materials, maximum use can be made of existing soils. This minimizes the need to haul in additional materials. And because it is mixed on site, construction crews will encounter no storage or waste problems. All these factors make MCX 3000 highly economical with considerable cost savings of 3-5 times when compared with conventional road construction methods.





# Enzyme Technology

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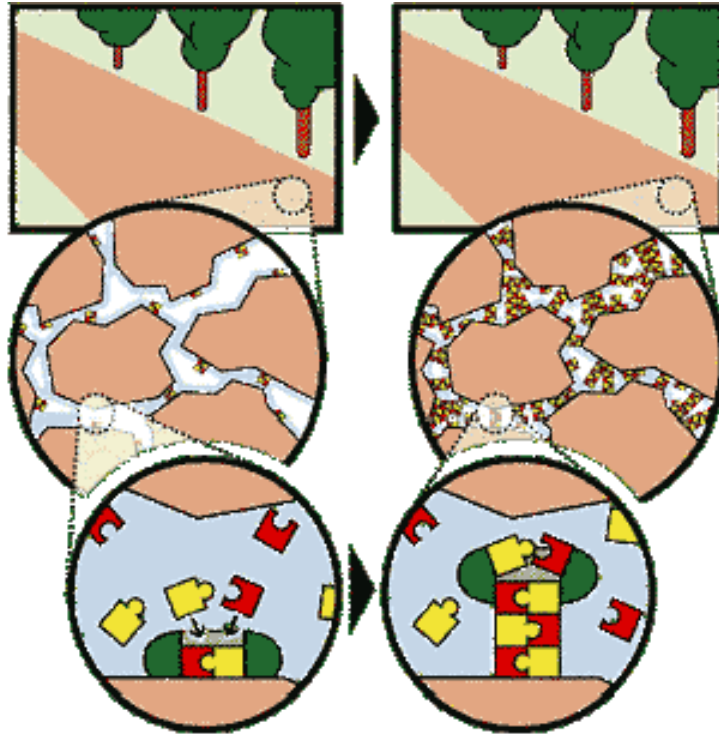
Enzymes act as catalysts for virtually every chemical reaction that occurs in plant and animal life.

Enzymes are naturally occurring protein molecules. Each enzyme is specifically tailored to promote a chemical reaction within or between other molecules. The enzymes themselves are unchanged by these reactions; rather, they serve as a "host" or "matchmaker" for the other molecules, greatly accelerating the rate of normal chemical and physical reactions.

The specific nature of enzymatic actions can be likened to a "lock and key." If the target molecule or molecules do not have the right properties, the enzyme will not serve as a "host" for promoting the desired chemical reaction. This is why MCX 3000 is unique and out-performs all other road treatment materials.

MCX 3000 is formulated with an enzyme-rich material which was the product of a natural fermentation process using cane sugars and other proprietary organic compounds. The enzymes have been tailored to provide the "lock" for numerous soil materials and promote the desired alteration of their properties, causing a rapid cementation process to occur.

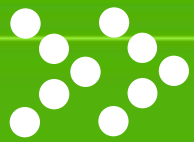
MCX 3000 is also blended with a biodegradable surfactant that reduces the surface tension, bringing the enzymes in closer contact with the soil materials, further promoting enzymatic reactions.



■ ■ Severed Minerals

■ Enzyme



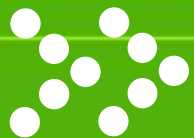


Funded by the **Federal Highway Administration**, the **Civil Engineering Research Foundation (CERF)** has made an evaluation of the environmental/toxicological impact of the use of MCX 3000 as a soil stabilization product.

The study found, in conclusion, that:

1. There are seven chemicals found in MCX 3000 which are listed in EPA's RBC table.
2. After MCX 3000 is applied in soil, all seven chemicals' concentrations in soil will be significantly lower than the RBC levels in residential soil, which means that application of MCX 3000 does not increase risk level of soils.
3. Pure MCX 3000 is either slightly toxic or moderately toxic according to different toxicological analyses.
4. MCX 3000 Application Mixture is practically non-toxic in all the toxicological analyses.





# MCX 3000 Applications

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## Road Construction

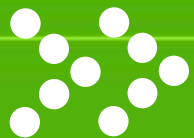
- o Stabilizing layers
- o Sub base planum
- o Shoulders
- o Park and rest area



## Railway Construction

- o Rail bed stabilization
- o embankment improvements





# MCX 3000 Applications

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## Unstabilized Paths

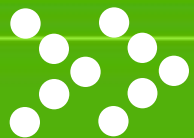
- o logging roads
- o Bicycle and pedestrian paths
- o natural drive ways, access roads
- o field paths
- o gravel roads



## General Construction

- o filling behind retainer walls
- o Injections





# MCX 3000 Applications

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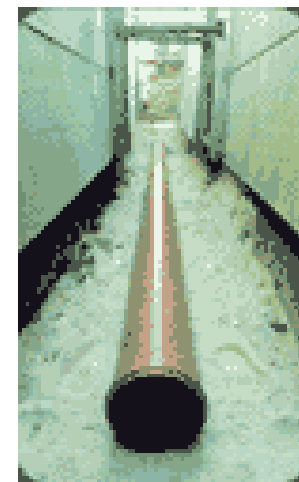
## High Rises

- o stabilizing the foundation
- o securing the ditches
- o Sub base stabilization
- o ditch securing and sub-filling



## Ditch and Canal Construction

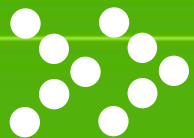
- o Filling ditches
- o embedding pipes



## Other Applications

- o Dust abatement





# MCX 3000 Installation

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**Step 1: Clear and Grade Path**



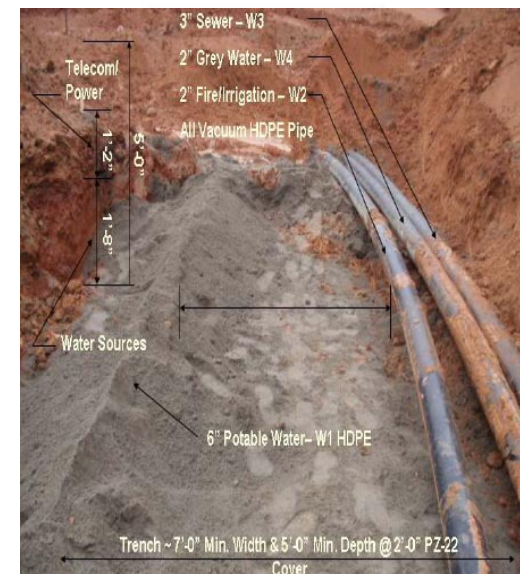
**Step 2: Apply Enzyme with Water Truck**



**Step 3: Shape and Compact**



- All paths will be treated with an environmentally friendly enzyme MCX 3000 that is formulated to bond the dirt particles together to form an impermeable trail throughout the island
- No cars will be allowed on island
- Average width of path will be 8ft
- Utility infrastructure will be routed under path and protected by MCX 3000 enzyme treated soil
- Enzyme designed to make soil path as hard as concrete



**Infrastructure Option**





# POLYVEN INTERNATIONAL, LLC



***THANK YOU !***  
**MCX3000 Technology**

