

PAVEMENT INDUSTRY



MEET OUR
TEAM



TERRA PAVE PRODUCTS for PAVEMENT INDUSTRY

TERRA PAVE PRODUCTS are the ECO-FRIENDLY COST-EFFECTIVE SOLUTIONS to the CHALLENGES in these MARKETS

TERRA PAVE TEAM

INTRODUCING TERRA PAVE PRODUCTS



IMPROVING *the* ROADS *of the* WORLD™

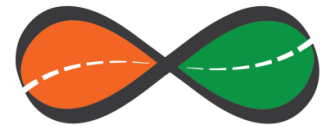




Terra Pave International of The University of Texas at Austin (UTA-TPI), has developed **COST-EFFECTIVE**, **ECO-FRIENDLY**, water-based polymer products for **CONSTRUCTING** and **MAINTAINING** roadways, parking lots, airfields, and all other traffic-bearing surfaces.



TERRA PAVE
INTERNATIONAL



EEI is the leader in **SUSTAINABILITY** and **REVOLUTIONIZING** the field of pavement materials, zero-energy custom building, solar electric yachts, and solar renewable energy.



EEI/UT-TPI'S PRODUCTS – TERRA PAVE



EEI/UTA-TPI's line of Eco-Friendly, Non-Toxic, Non-Petroleum-based, Non-Corrosive, Non-Hazardous, Waterproof, **Water-based polymer products** address most aspects of pavement construction and maintenance:

- ✓ *Early maintenance/Pavement preservation*
- ✓ *New construction*
- ✓ *Unpaved dirt roads*



SHOW VIDEO

<https://youtu.be/4449TZvtCdU>



ROAD MAINTENANCE:

1. *Early asphalt maintenance/Pavement preservation*
 - **Fog Seal** – *Terra Fog*
 - **Albedo Cool Pavement Seal** – *Terra Pave Albedo Cool Pavement*

NEW ROAD CONSTRUCTION:

1. *New construction - Waterproof layer MC30 replacement*
 - **Prime Coat** – *Terra Prime*
2. *Unpaved dirt roads, airfields, parking lots, road base, etc..*
 - **Concrete Replacement** – *Top-Seal White*
3. *Paved roads, highways, runways, etc..*
 - **Concrete Replacement** – *Top-Seal White*
 - **Wearing Surface/Asphalt Replacement** – *Top-Seal Black*

TERRA PAVE PRODUCTS – MATERIALS & EQUIPMENT COST SAVING



NO SPECIAL EQUIPMENT or HANDLING PROCEDURES REQUIRED

TERRA PAVE → ENVIRONMENTALLY SAFE

- ◆ NON-HAZARDOUS
- ◆ NON-CORROSIVE
- ◆ NON-PETROLEUM BASED
- ◆ NON-TOXIC
- ◆ WATERPROOF
- ◆ IMPROVED BRAKING DISTANCE

COST-EFFECTIVE





Cost-Effective
Non-Hazardous
Non-Corrosive
Non-Petroleum Based
Non-Toxic
Waterproof

Improved Braking Distance

Environmental Eco-Friendly with No Special Handling

Asphalt Pavement Roads replacement/repair
Bifacial Solar Panel Albedo Surface
Cart Paths
Farms & Ranches
Hazardous Material Capping & Sealing
Horse Farms & Arenas
Military Convoy & Tank Trails
Parking Lots / Roads
Solar Farm Roads / Access Roads
Water Retention Basins

Aircraft Runways
BMX Tracks
Cars/Vehicles Lots
Foundations
Heavy Haul Roads & Mining Roads
Hydroseed & Hydromulch Tackifier
Mine Tailings Capping & Reclamation
Shoulders
Temporary Roads & Detours
Pond Linings ... and MUCH MORE

Base Stabilization
Bunker Liners
Driveways/Dirt Roads
Golf Courses
Helicopter Landing Pads
Landfill Capping & Reclamation
Odor & Vapor Suppression
Slope Erosion Control
Walking Trails & Paths

USA STATE DEPARTMENT NOMINATION – APEC BIO-CIRCULAR-GREEN (BCG) AWARD – JUNE 2024

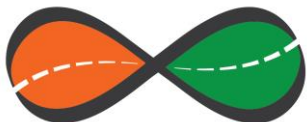
NOMINATION JUNE 2024

U.S.A Department of State NOMINATION for the APEC Bio-Circular-Green (BCG) Award 2024



NOMINATED by the USA Department of State Asia Pacific Economic Cooperation (APEC) as a U.S.A NOMINATION for the APEC Bio-Circular-Green (BCG) Award 2024.

TERRA PAVE



**Asia-Pacific
Economic Cooperation**

CADY PRIZE AG. & ENVIRONMENTAL SEPT 28, 2023 – TOP #1 WINNER



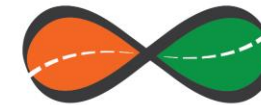
TOP #1 Eco-Friendly Products in the USA 2023
CADY Prize for Ag and Environmental Category

14th ANNUAL CADE PRIZE
CELEBRATING CREATIVITY AND INNOVATION



AGRICULTURE &
ENVIRONMENTAL
2023 USA

TERRA PAVE



PRESENTED BY THE CADE MUSEUM
ON SEPTEMBER 28, 2023



INVENTIVITY™

Cade Prize



WEBSUMMIT LISBON, PORTUGAL NOVEMBER 2021 – TOP 10 WORLD WINNER



TOP 10 Eco-Friendly Products in the WORLD
2021

Web Summit Lisbon, Portugal



Carlos Manuel Félix Moedas –
announces deal with Terra Pave
International to save the city of
Lisboa only 2 weeks 1 day on the
job as the Mayor of Lisboa,
Portugal.



Confidential and Proprietary Information

NREL USA DEPARTMENT OF ENERGY – AWARD TOP 10 2019-2020

TOP 10 Eco-Friendly Products 2019-2020

National Renewable Energy Lab
USA Department of Energy



U.S. DEPARTMENT OF ENERGY



NREL
National Renewable Energy Laboratory

Innovation for Our Future



CONGRATULATIONS, ROUND 2 FINALISTS

Team Asoleyo
Architectural Solar Cells
Herndon, VA

Team Solpaver
New Braunfels, TX

Team Terra Pave
Austin, TX

Team Integrated Silicon Technologies
Pittsburgh, PA

Team SunFlex Solar
Tempe, AZ

Team VesprSolar
Norman, OK

Team Orison Inc.
Cody, WY

Team Switched Source LLC
Vestal, NY

Team Resilient Power Systems
Georgetown, TX

Team Taka Solar
Mountain View, CA





U.S. DEPARTMENT OF ENERGY

American-Made SOLAR PRIZE

Winner Solar Prize Round 2 semifinalist

TERRA PAVE PRODUCTS

October 4, 2019

On behalf of the National Renewable Energy Laboratory (NREL), the American-Made Challenges Prize Team would like to congratulate Solar Prize Round 2 semifinalist! ECOLOGICAL ESTATES LLC

TERRA PAVE PRODUCTS ARE THE ECO-FRIENDLY COST-EFFECTIVE SOLUTIONS FOR THESE ISSUES FOR SOLAR FARMS

DIRT/DUST SOILING SOLAR PANELS	OVERGROWN WEEDS & VEGETATION	GROUND ALBEDO FOR BI-FACIAL PANELS REFLECTED SUNLIGHT	NOT ECO-FRIENDLY CONCRETE ASPHALT
		INVERTER'S PADS, ACCESS ROADS	

The Eco-Friendly Cost-Effective products (Top-Seal White™, Top-Seal Black™) were developed, manufactured in Austin, TX, tested on a small scale in a field and a field applied and proven through testing with the Texas Department of Transportation (TXDOT), US Army, the City of Austin, TX and City of San Marcos, TX. The products have superior strength and binding properties, dries within an hour thus allowing work to be completed days and weeks in advance, have no odor or tracking issues and is much safer to use than traditional sealers. Product testing, done by San Antonio Testing Labs, a 3rd party, following EPA approved test method shows that no detectable petroleum hydrocarbons, volatile organic compounds, petroleum hydrocarbons, or semi-volatile, heavy metals were detected.



TSWhite Albedo	TSBlack	COMPETITOR PRODUCT	COMPETITOR PRODUCT
		CEMENT/CONCRETE	CEMENT/CONCRETE
		TOP-SEAL	TOP-SEAL

TERRA PAVE • ENVIRONMENT • SAFE

- NON-HAZARDOUS
- NON-CORROSIVE
- NON-PETROLEUM BASED
- NON-TOXIC

COST-EFFECTIVE

NO SPECIAL EQUIPMENT OR HANDLING PROCEDURES REQUIRED

Top-Seal White™ Albedo: Durable Strong Low Maintenance, Eco-Friendly dirt/Dust/Vegetation Control, Bi-Facial panel reflection surface, strength is comparable to cement concrete, concrete pavement surfaces/road base replacement.

Top-Seal Black™: Durable/low maintenance, eco-friendly asphalt pavement surfaces replacement, excellent to prevent the penetration of water and air into the pavement surfaces, increase surface friction thereby shortening braking distance.

Supported by the U.S. Department of Energy, Solar Energy Technologies Office; Directed by the National Renewable Energy Laboratory

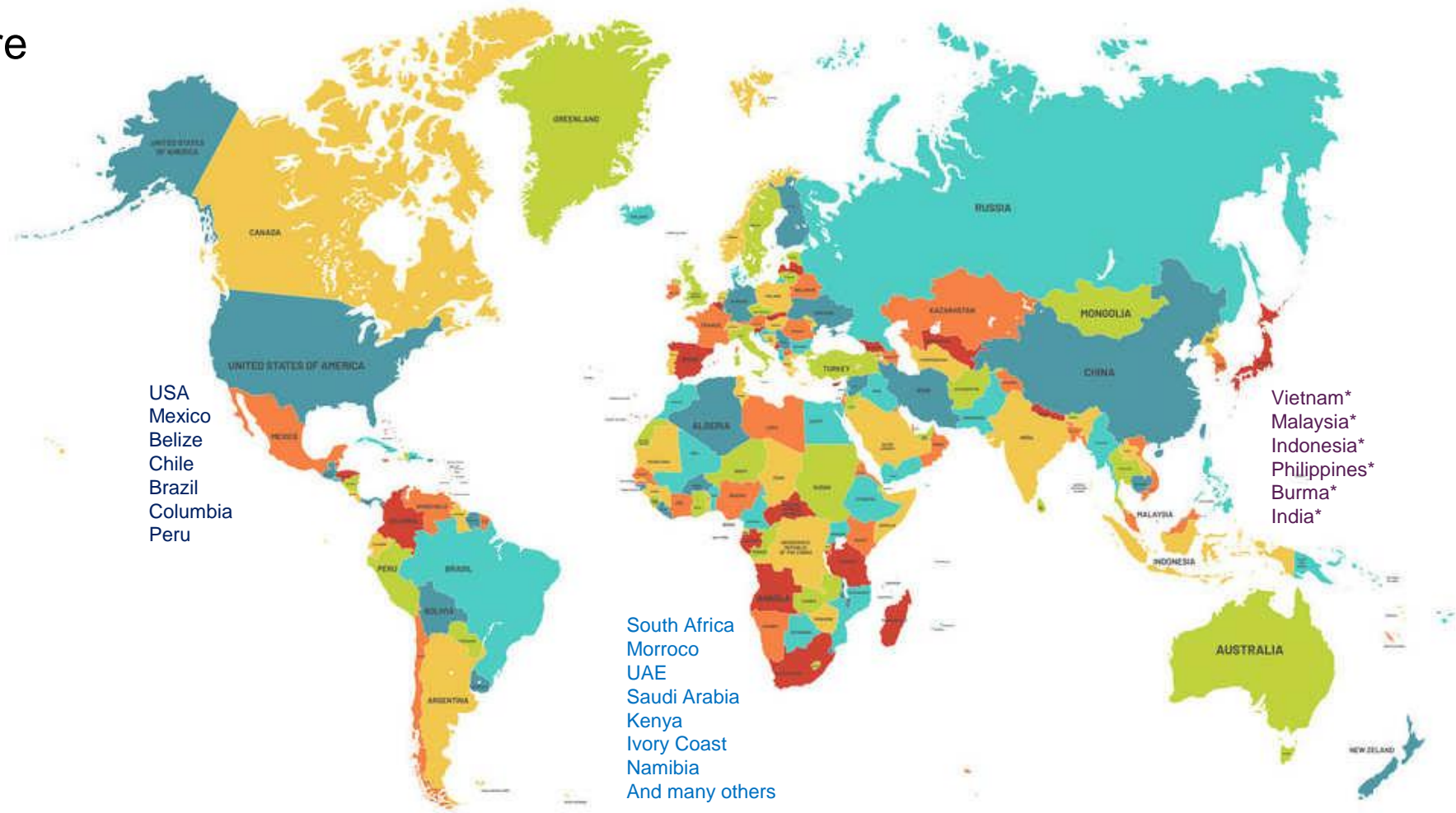


PROMOTED & SOLD IN +30 COUNTRIES

Terra Pave Products were tested by



Sandia National Laboratories





TP FOG & TP ALBEDO COOL PAVEMENTS

***Asphalt / Concrete Roads Maintenance
Products
Pavement Preservation
Chip Seal Preservation***



TOP-SEALTM

TOP-SEAL TERRA FOG (black color)

***Asphalt Maintenance Product
Pavement Preservation
Chip Seal Preservation***

**APPROVED BY TXDoT
(Texas Department of Transportation)**

DEFINITION OF PAVEMENT PRESERVATION

The USA Federal Highway Administration (FHWA) defines **pavement preservation**:

A program employing a network-level, long-term strategy that enhances pavement performance by using an integrated, cost-effective set of practices that:

- *extend pavement life,*
- *improve safety, and*
- *meet motorist expectations (enjoyable ride)*
- *no car damages due to distressed roads.*

DEFINITION OF PAVEMENT PRESERVATION

➤ The chart below illustrates the performance of pavements over time.

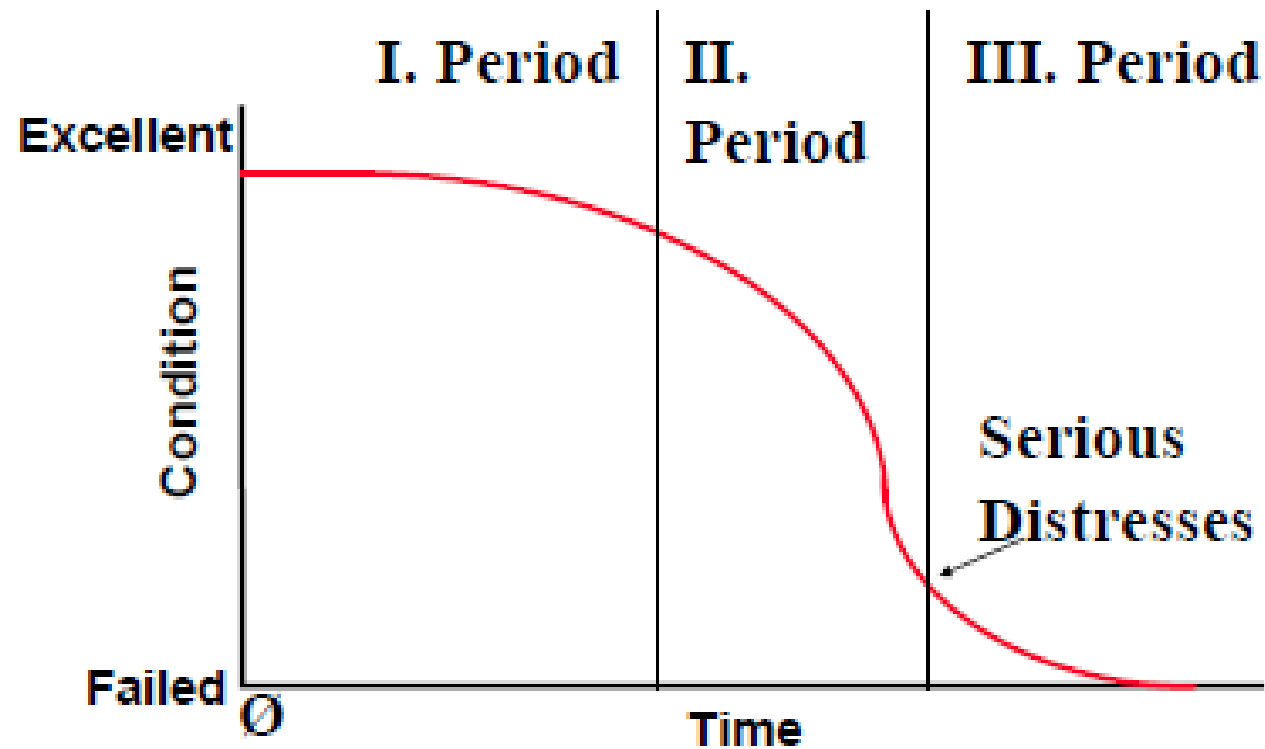


Figure 1-1. The Concept of Preventative Maintenance.

DEFINITION OF PAVEMENT PRESERVATION

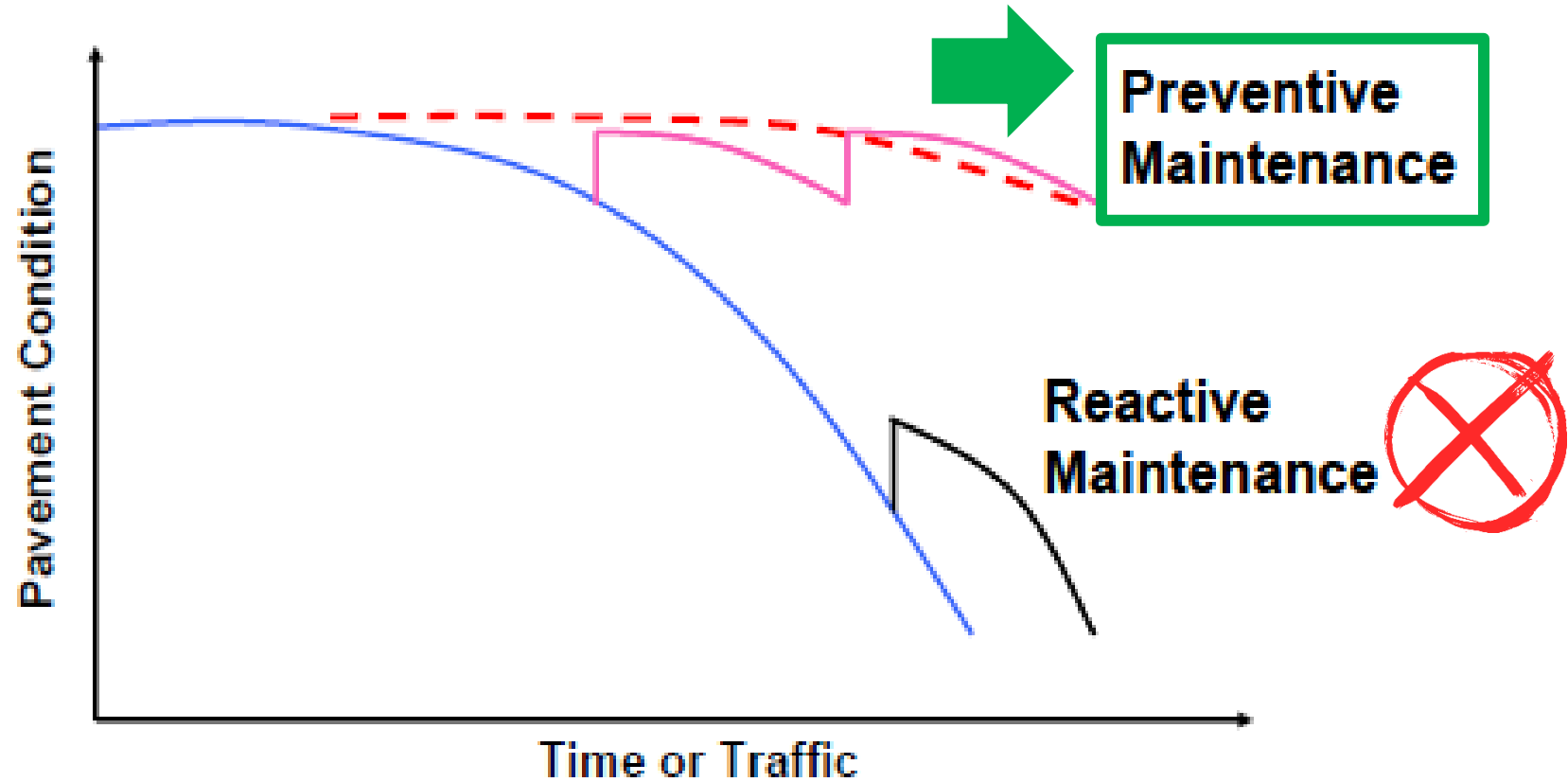


Figure 1-2. Pavement Condition.

PAVEMENT PRESERVATION

- *Pavement preservation* utilizes a combination of preventive and routine maintenance, with a heavy emphasis on prevention.
- Maintaining roads in good condition is:
or Preventive Maintenance:
 - ✓ easier,
 - ✓ faster,
 - ✓ minimize traffic disruptions,
 - ✓ less costly than repairing roads with heavy damage.



PAVEMENT PRESERVATION

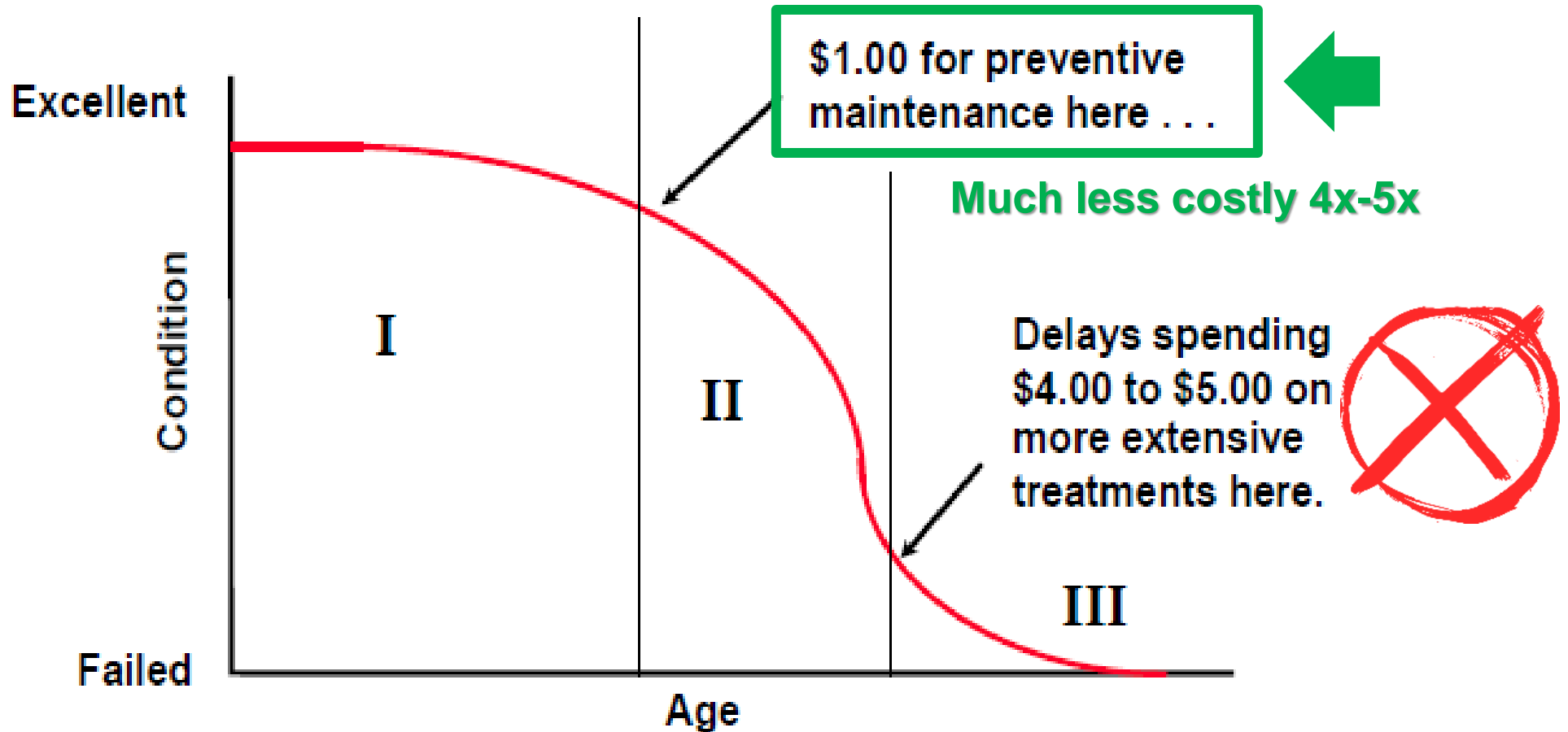


Figure 1-3. The Costs Associated with Preventative Maintenance.

PAVEMENT PRESERVATION



- This maintenance strategy offers many benefits to road users as well.
 - ✓ By keeping roads in good condition, **preventive maintenance** improves safety conditions.
 - ✓ **Enjoyable ride & no car damages** due to distressed roads.
 - ✓ The **ride quality** of the road is **increased**, making driving a more comfortable and pleasant experience



TERRA FOG



Before Application with Terra Fog™

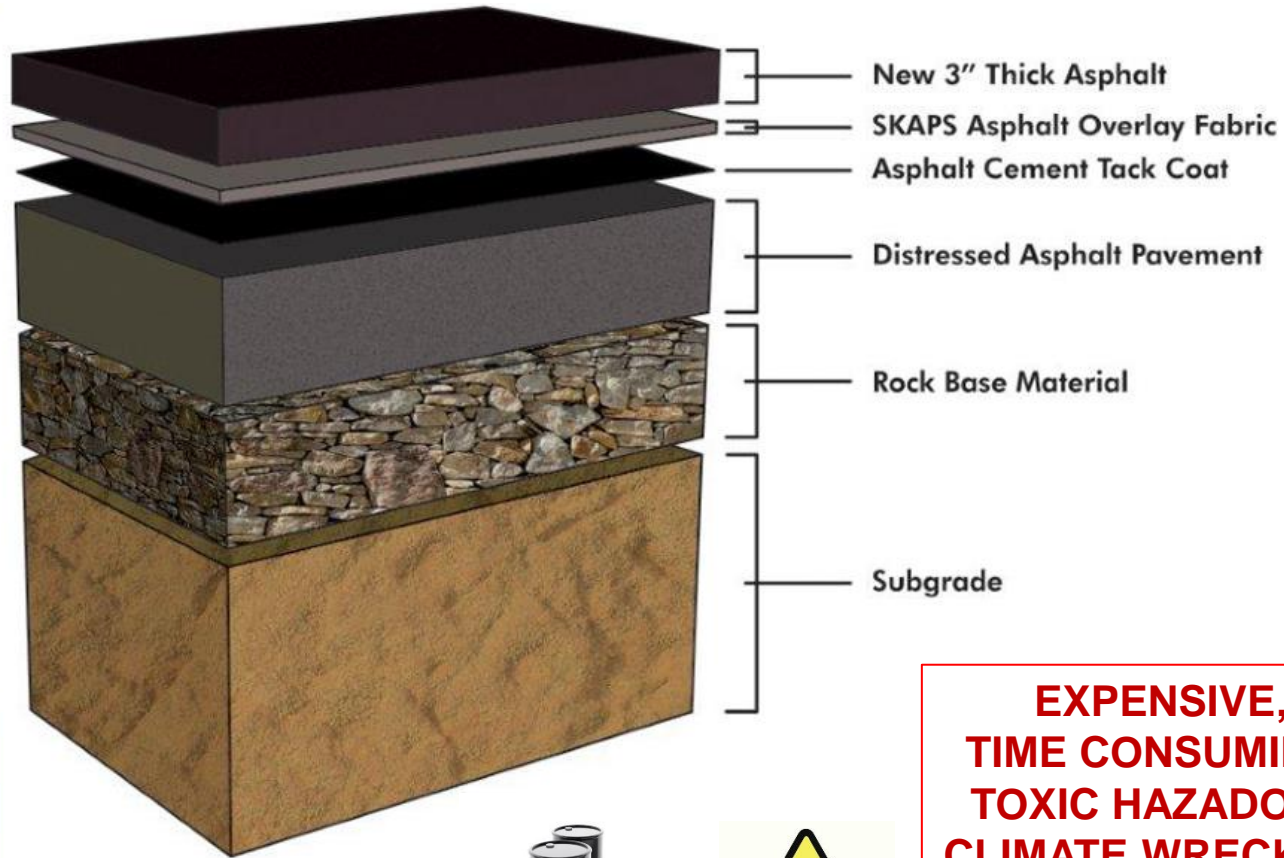


After Application with Terra Fog™

Terra Fog is a high-quality, environment-friendly, and cost-effective solution for improving performance and extending service life in chip seals, and asphalt pavements.

PAVEMENT PRESERVATION

TOXIC Process to Repair Distressed Asphalt Pavement



**EXPENSIVE,
TIME CONSUMING,
TOXIC HAZARDOUS
CLIMATE WRECKING**



TERRA FOG



Existing Distressed
Asphalt Road stack

**Eco-Friendly, Cost-Effective
Preventive Maintenance
PROCESS**

TERRA FOG CITY OF AUSTIN 1ST STREET TEST SECTION

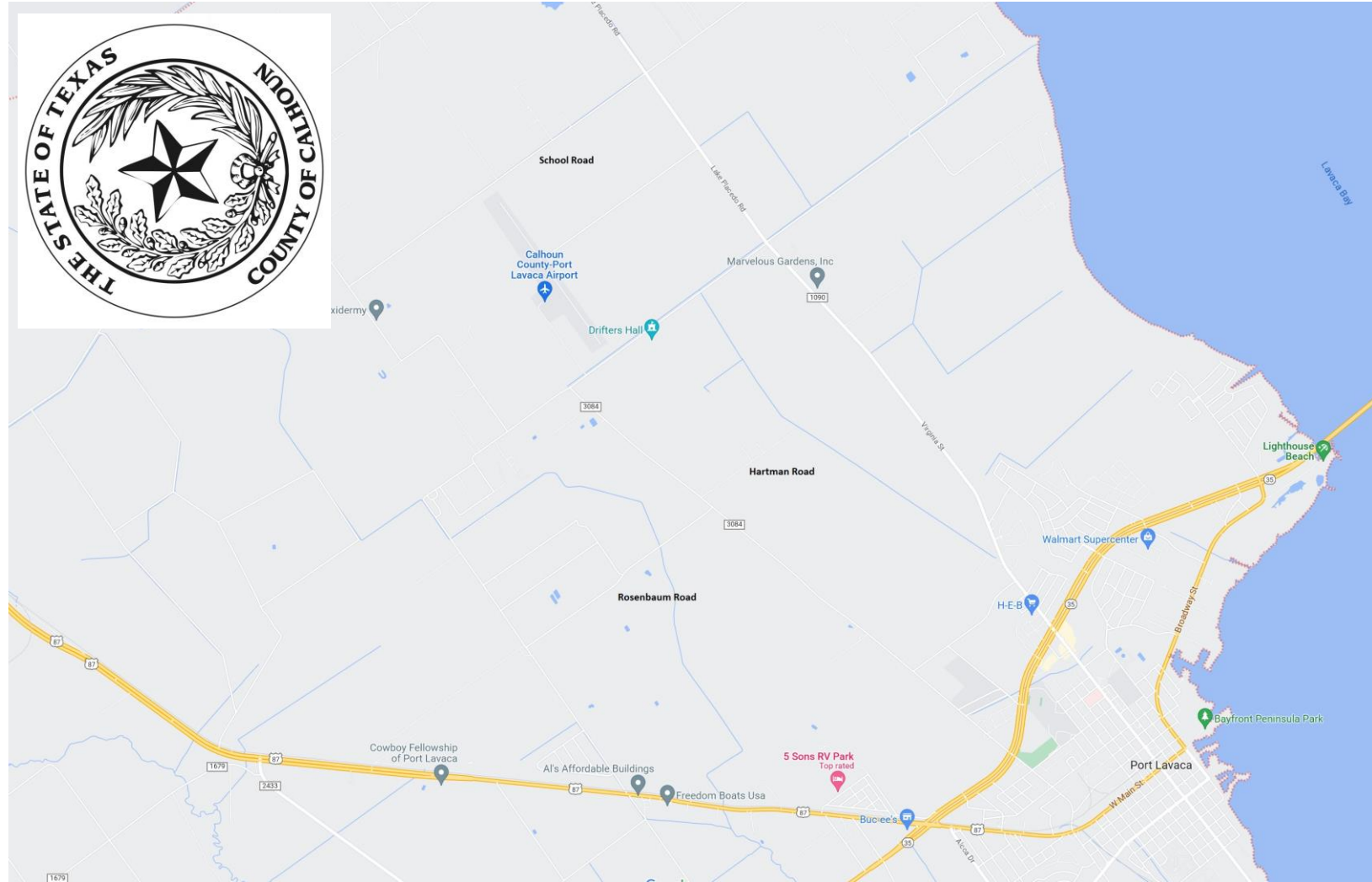


SHOW VIDEO

<https://youtu.be/BjJ19b6il3M>



TERRA FOG 4 MILES OF ROAD COUNTY OF CALHOUN PORT LAVACA, TX

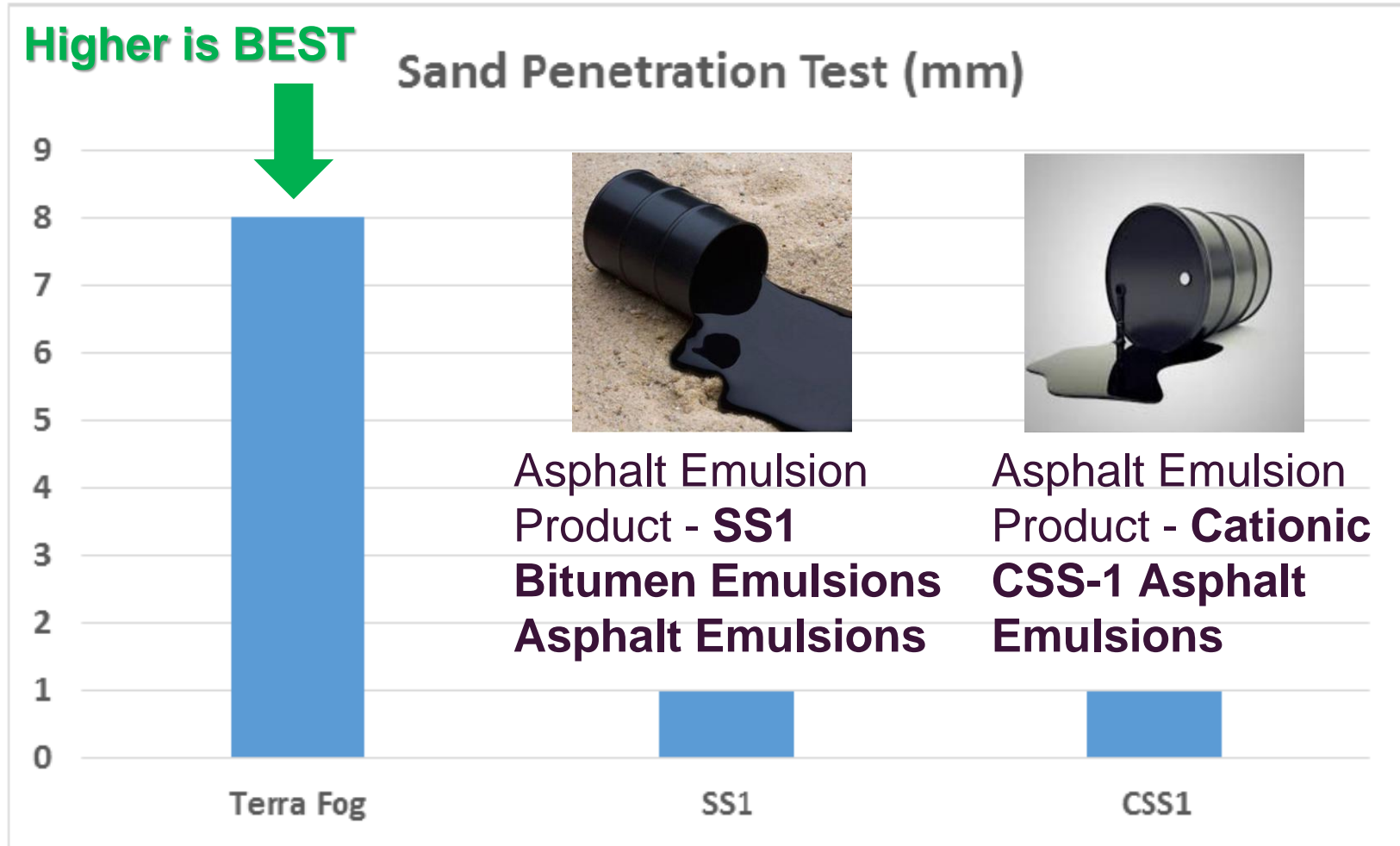




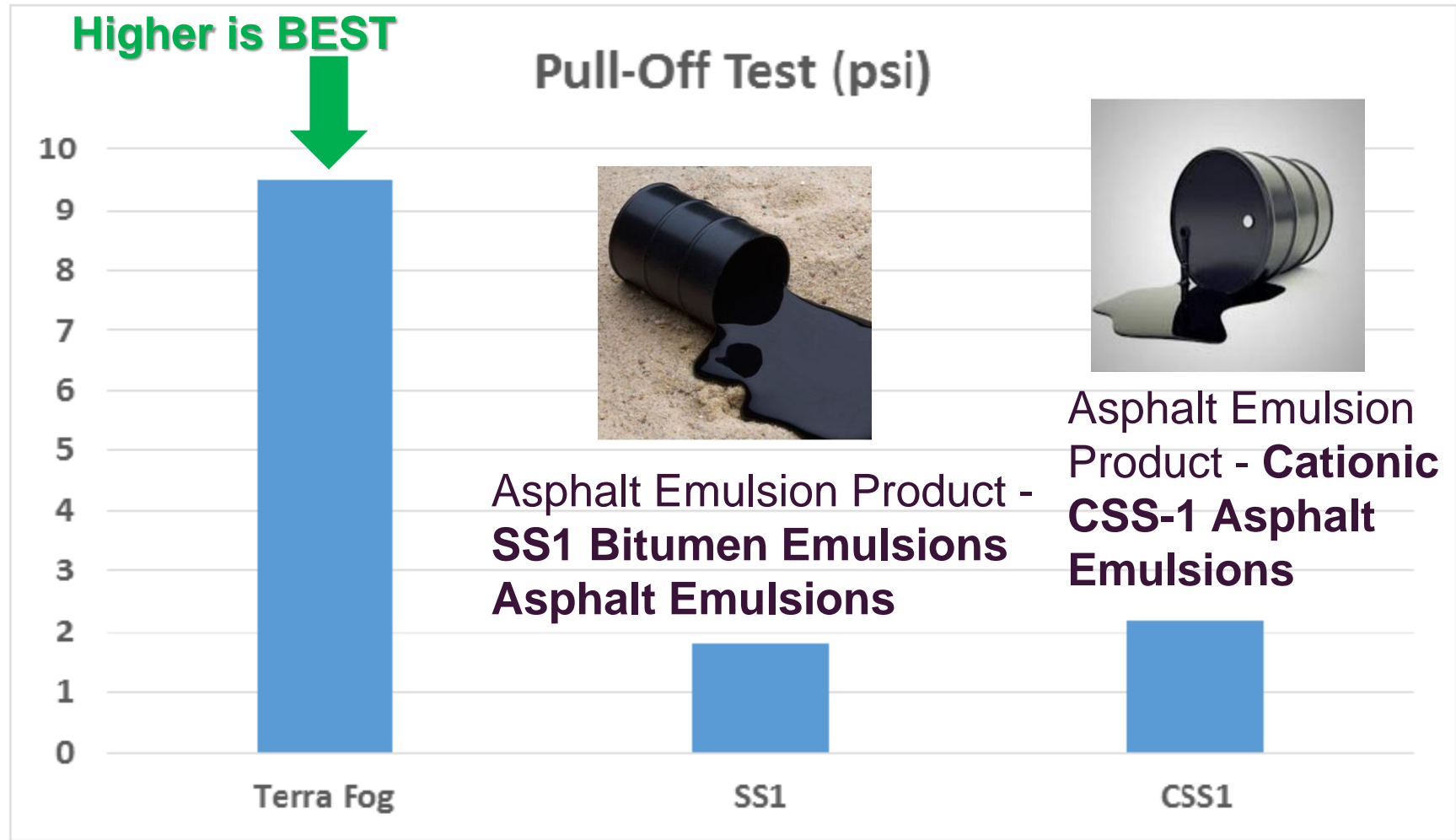
SHOW VIDEO

<https://youtu.be/r-dWIBK5zAw?si=kgcLJxQPBYHRSg9R>

PAVEMENT PRESERVATION



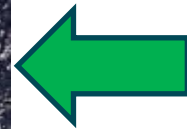
PAVEMENT PRESERVATION



TERRA FOG CITY OF AUSTIN, TX USA TEST SECTION



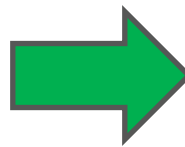
Fresh **Terra Fog** atop



Chip Seal



Fresh **Terra Fog** atop
old, oxidized asphalt



TERRA FOG – RIO D, BRAZIL ROAD REPAIR



Environmentally Safe
Superior Strength
Cost-effective
Impermeable
Rapid Curing



TERRA FOG - CITY OF AUSTIN, TX USA TEST SECTION

Chip Seal vs. Chip Seal with **Terra Fog** overlay





TERRA FOG - CITY OF AUSTIN, TX USA TEST SECTION

Chip seal section with Terra Fog did not loose any aggregate

whereas

Section without Terra Fog lost significant amount of aggregate less than one year after construction



TERRA FOG - CITY OF AUSTIN, TX USA TEST SECTION



Section with Terra Fog

Section with Terra Fog

Section without Terra Fog

February 1, 2016

Yetkin Yildirim, Ph.D., PE
President & CTO

Terra Pave International
www.terrapaveinternational.com

Yetkin,

This is a letter to confirm what we discussed about use of Terra Fog on TxDOT projects. As you know we've used Terra Fog on projects and spot work in San Antonio and Austin, and I've also seen the applications by the City of Cedar Park. All of these appear to have worked well and seem to be good treatments.

I'd be interested in seeing the product used on some TxDOT projects in other locations, and getting feedback from the TxDOT users on the application. Of course we don't have a statewide specification for this type of material yet; these projects would feed into the process of rolling a spec out.

So, if you identify TxDOT Districts who are interested in Terra Fog, I would encourage them to use it on a trial basis. Please ask them to contact me, and I can provide additional information and a draft specification on request.

As always, contact me any time.



Gerald D. (Jerry) Peterson, P.E.

Asphalt, Chemical and Calibration Branch Manager
Construction Division

OUR GOALS

MAINTAIN A SAFE SYSTEM • ADDRESS CONGESTION • CONNECT TEXAS COMMUNITIES • BEST IN CLASS STATE AGENCY

An Equal Opportunity Employer

RECOMMENDATION FROM TXDOT (TEXAS DEPARTMENT OF TRANSPORTATION)





TOP-SEALTM

**TOP-SEAL ALBEDO COOL PAVEMENTS
(TSACP) Road**

Liquid Soil Sealant & Stabilizer
Reduce Road Temperature

PROMOTED and SOLD in MORE THAN 30 COUNTRIES

TERRA SEAL ALBEDO COOL PAVEMENTS ADVANTAGES

The **USA EPA** defines **HEAT ISLANDS**: Heat islands are urbanized areas that experience higher temperatures than outlying areas. Structures such as buildings, roads, and other infrastructure absorb and re-emit the sun's heat more than natural landscapes such as forests and water bodies.

A program employing a network-level, long-term strategy that lower the temp. of, the road by at least -18 degrees F and a cost-effective set of practices that:

- *extend pavement life and lower road temperature*
- *improve safety, and*
- *meet motorist expectations (enjoyable ride)*
- *no car damages due to distressed, very hot roads.*



TOP-SEAL ALBEDO COOL PAVEMENTS (TSACP)

COOL PAVEMENT
TEST



**TSACP lowered the road temperature
by -18 degree F for the Nevada Department
of Transportation (NDoT)**



VS ASPHALT WITHOUT THE COATING



ASPHALT WITH TOP SEAL ALBEDO
COATING

REDUCE HEAT-ABSORPTION



TSACP improves highway/road quality and durability by reducing the heat-absorption from the sun. City of Phoenix, AZ 36 miles of roads to reduce the heat. **NOVA PBS – Weathering the FUTURE**

It has advantages such as:

- Water-based
- Cold-applied
- Faster Curing
- Greater Strength
- Non-flammable
- Non-toxic
- No VOCs (Volatile Organic Compounds)
- Reduces the heat absorption from the sun

<https://www.pbs.org/wgbh/nova/video/weathering-the-future/>
 Premiered: April 23, 2023



SHOW VIDEO



NOVA WATCH TOPICS SEARCH Q SCHEDULE

<https://www.pbs.org/wgbh/nova/video/weathering-the-future/>

Weathering the Future
Americans use ancient wisdom and new technology to fight extreme weather.

PREMIERED: 4/12/23 RUNTIME: 53:31 TOPIC: PLANET EARTH

SHARE [social media icons]

PBS
PUBLIC BROADCASTING SERVICE

It's hard not to notice: our weather is changing. From longer, hotter heat waves, to more intense rainstorms, to megafires and multi-year droughts, the U.S. is experiencing the full range of impacts from a changing global climate. At the same time, many on the front lines are fighting back – innovating solutions, marshaling ancient wisdom, and developing visionary ideas. The lessons they're learning today can help all of us adapt in the years ahead, as the planet gets warmer and our weather gets more extreme. (Premiered April 12, 2023)

Join producers and experts from "Weathering the Future" for clips, a panel discussion, and audience Q&A on April 25th at 7PM ET. Register for the event here: <https://bit.ly/3Uufnl2>





TPWhite & TPBlack & TPrime

***Replacement for Asphalt / Concrete Roads
Building NEW Roads & Pavements***



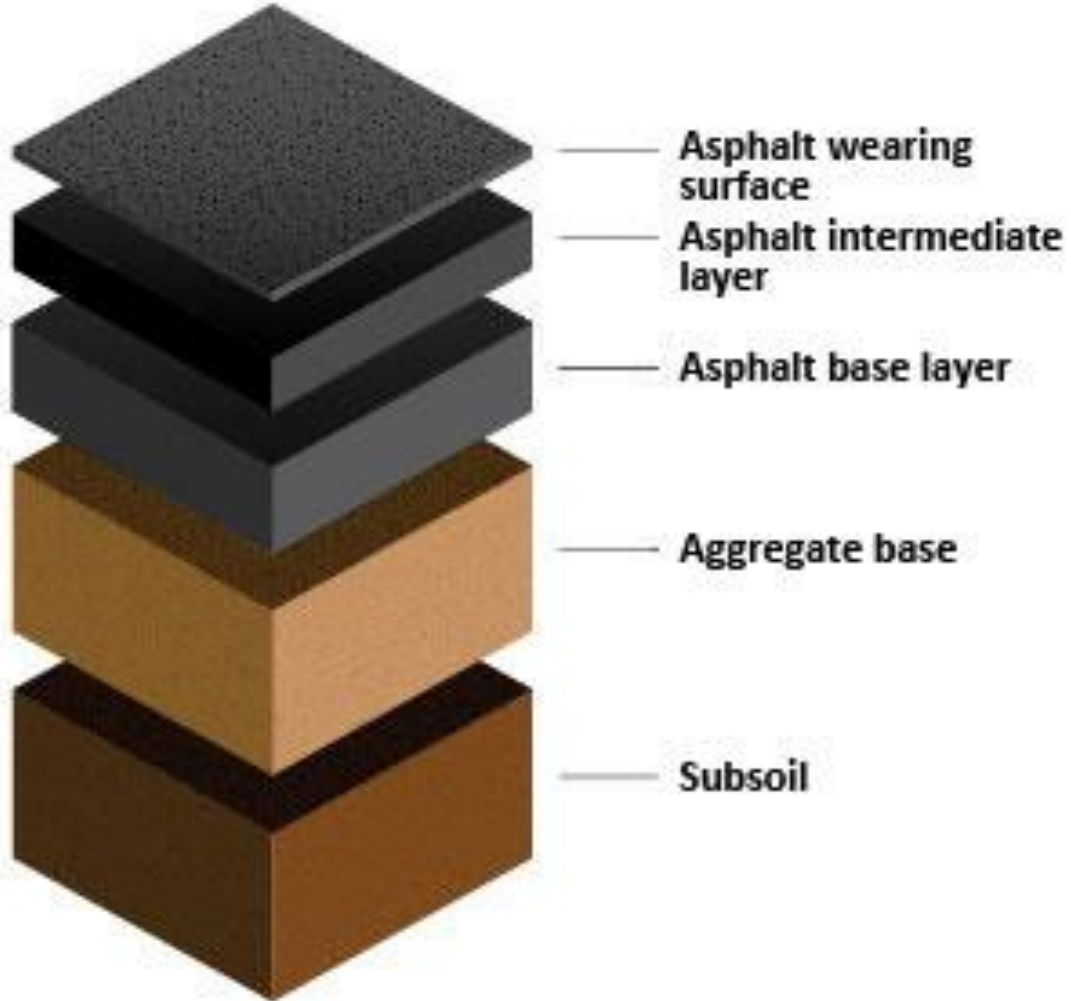
TOP-SEALTM

TOP-SEAL White (TSW)
Liquid Soil Sealant & Stabilizer
Concrete Replacement

PROMOTED and SOLD in MORE THAN 30 COUNTRIES

TERRA PAVE WHITE (BASE, UNPAVED ROADS)

ASPHALT ROAD CROSS SECTION



TERRA PAVE WHITE

(Base, Concrete Replacement, Unpaved Roads, Airfield, etc..)

TOP-SEAL WHITE (TSW)



TSW is a water-based polymer soil additive that powerfully binds **EXISTING** soil particles into a hardened and moisture-resistant mass or **Eco-Friendly Waterproof Concrete Replacement**.

TSW will

- (1) stabilize and waterproof road bases,
- (2) prevent soil erosion
- (3) pavement for dirt and, un-improved roads

TOP-SEAL WHITE

CONSTRUCTION & RECONSTRUCTION

- **Paved and Unpaved Road Bases**
- **Airfields, Runways, Helicopter Landing Pads**
- **Landfills**
- **Embankments**
- **Foundations For Homes & Commercial Buildings**
- **Driveways, Parking lots**
- **Slope Erosion Control**
- **Water Retention Basins & Pond Linings**
- **Cart Paths, Golf Courses**
- **Base Stabilization**
- **Military Convoy & Tank Trails and many more applications**
- **Solar Energy Farms/Albedo Bifacial Solar Field – TSW Solar Albedo**

HOW DOES TOP-SEAL WORK?

After being evenly and thoroughly distributed into the soil, and with good compaction, Top-Seal will begin the process of **irreversibly transforming from a liquid to a solid.**



* Soil Grader



* Soil Compactor



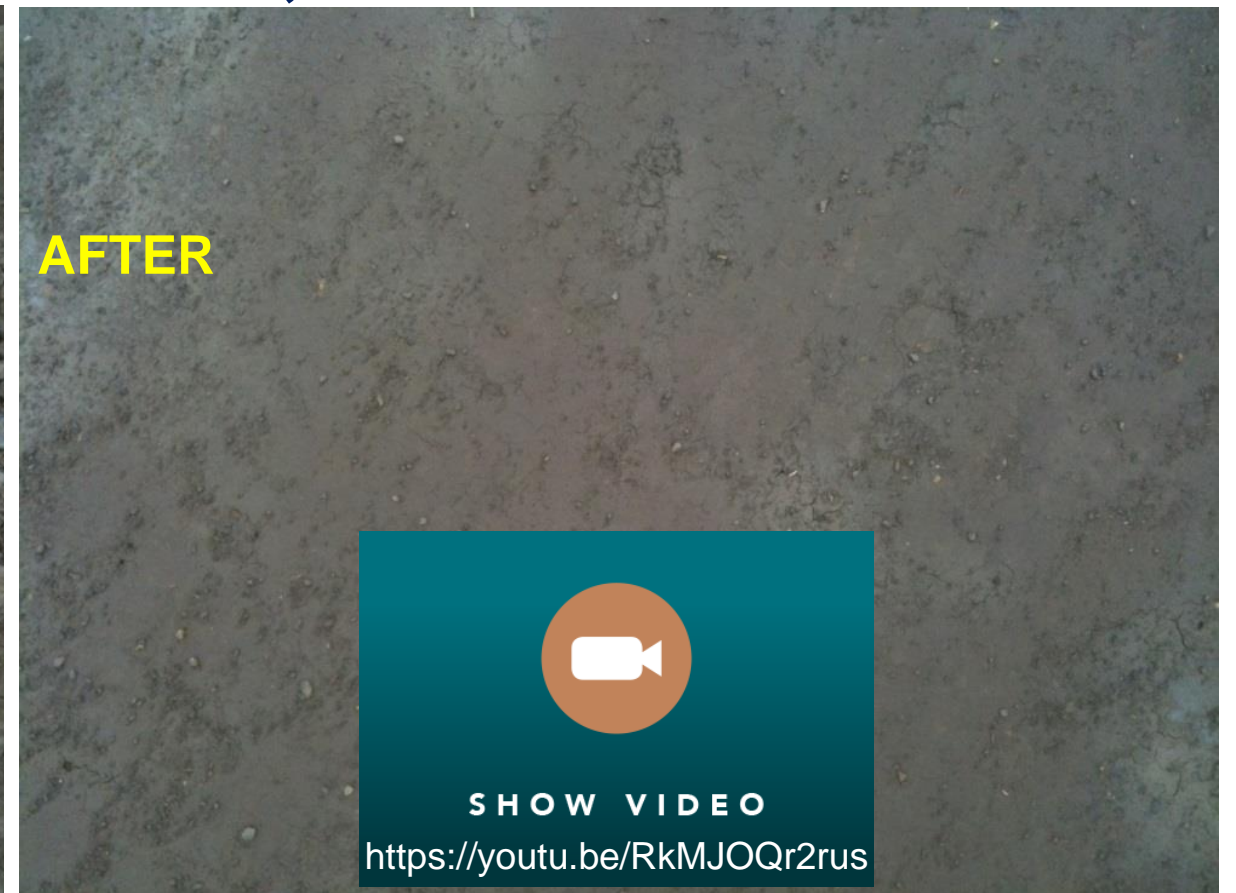
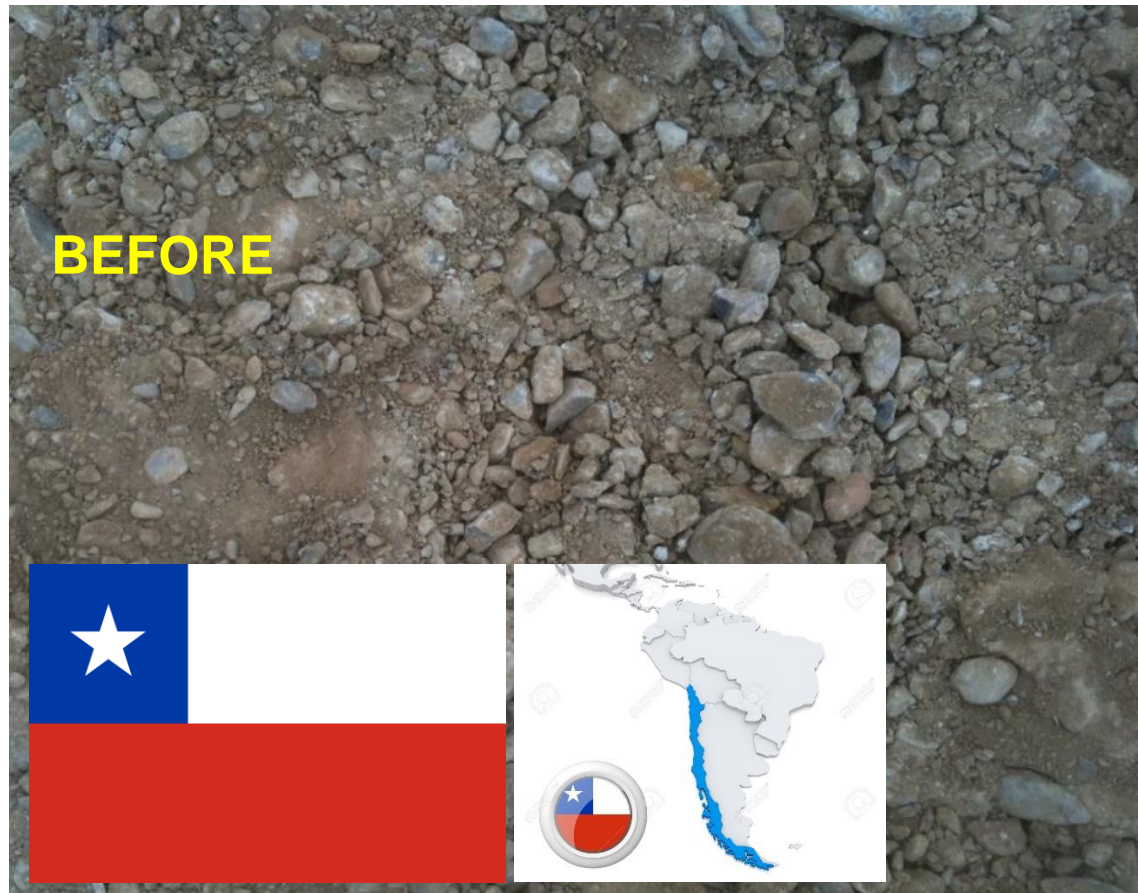
* Water Sprayer

The product continues to interact with the soil as a hardening agent that dramatically **increases soil strength** and **resistance to moisture.**

BASE STABILIZATION

A CLOSER LOOK

BEFORE & AFTER TSW™ in CHILE, SOUTH AMERICA



EXTREMELY CHALLENGING

Top-Seal was “**BATTLE TESTED**” with a daily exposure to the **extremes of severe weather conditions** and **constant convoys of M1-Abram tanks and other heavy armored vehicles** at a military installation in Central Texas USA.

The following slides will show how well Top-Seal can be expected to perform in extremely challenging environments.

IMPROVEMENT OF A MILITARY ROAD



COMPARISON SIDE-BY-SIDE



ANOTHER COMPARISON



TOP SEAL WHITE – EXXON-MOBIL PROJECT

Terra Pave White - Corpus Christi, TX – Exxon Mobil road project completed with Terra Pave White - Ultra-heavy Module for the Exxon GCGV project near Corpus Christi, Texas crossed the finish line.

This was 4.5 miles of heavy haul road (HHR) supporting up to 140psi SPMT wheel loads transporting up to 12,000 Metric Tonne modules. There were over 100 transport runs with over 30 ultra-heavy modules. The design was for 10,000 cumulative axle passes over any one point.



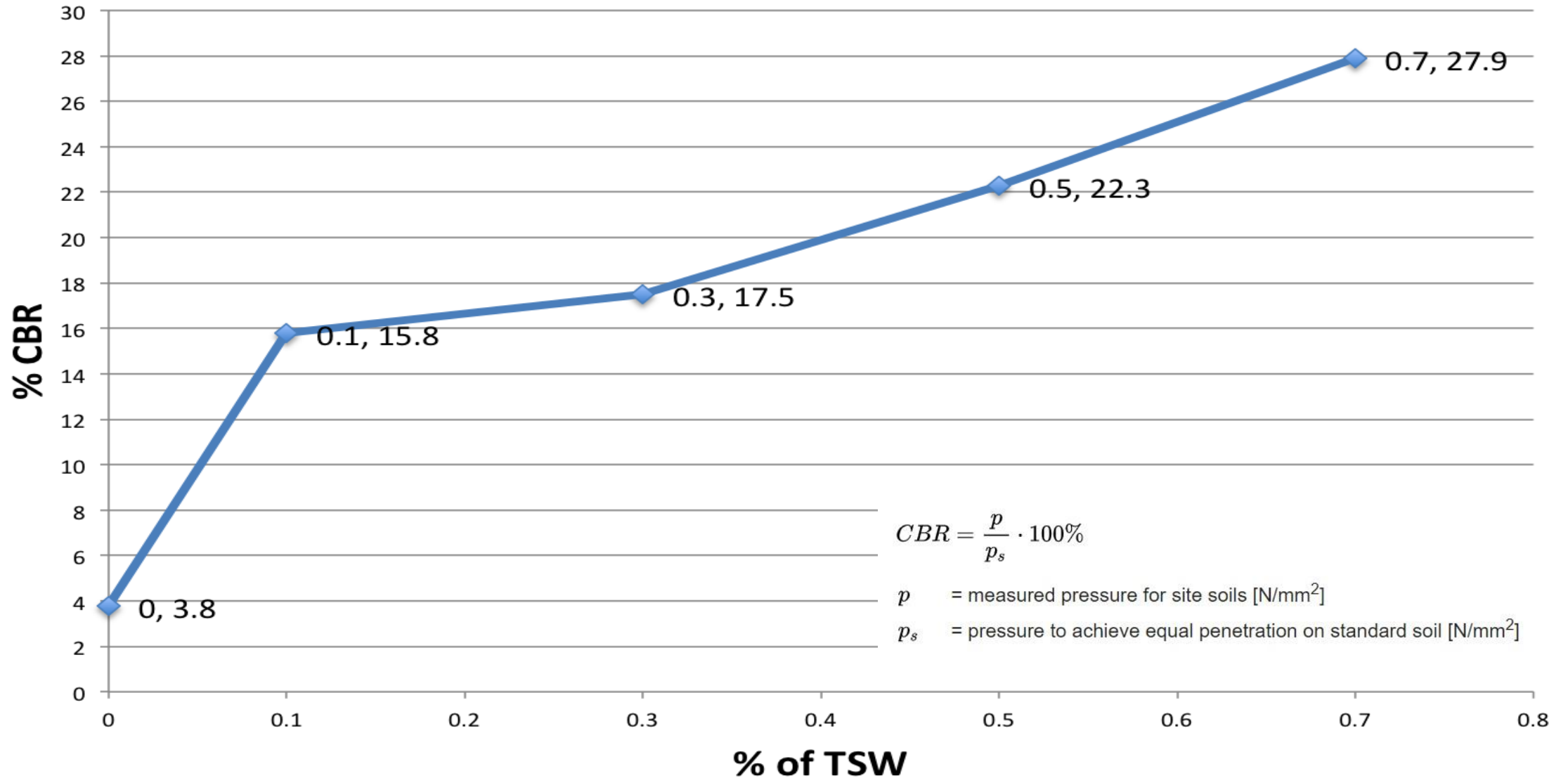
<https://vimeo.com/377598222>



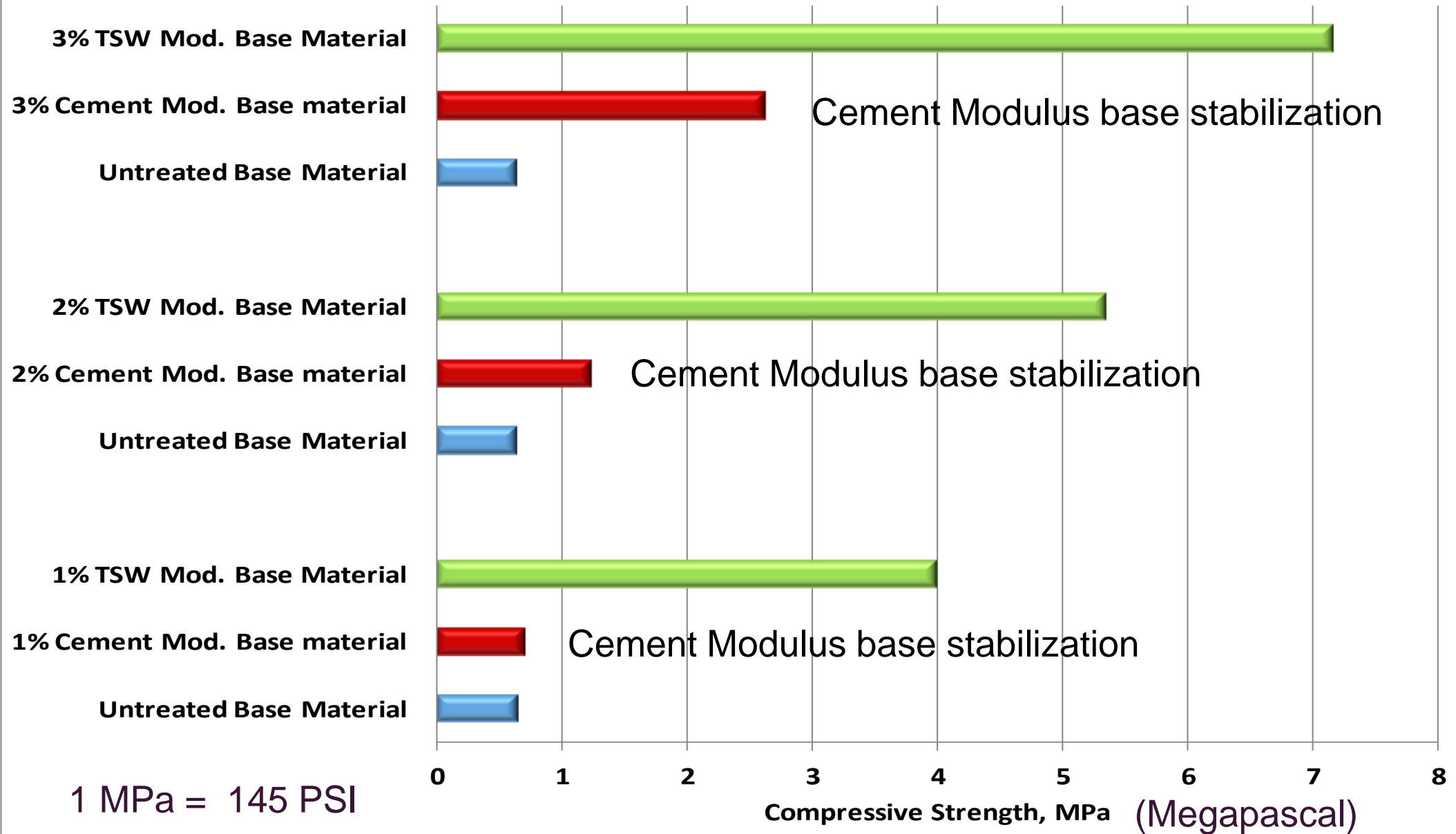
SHOW VIDEO



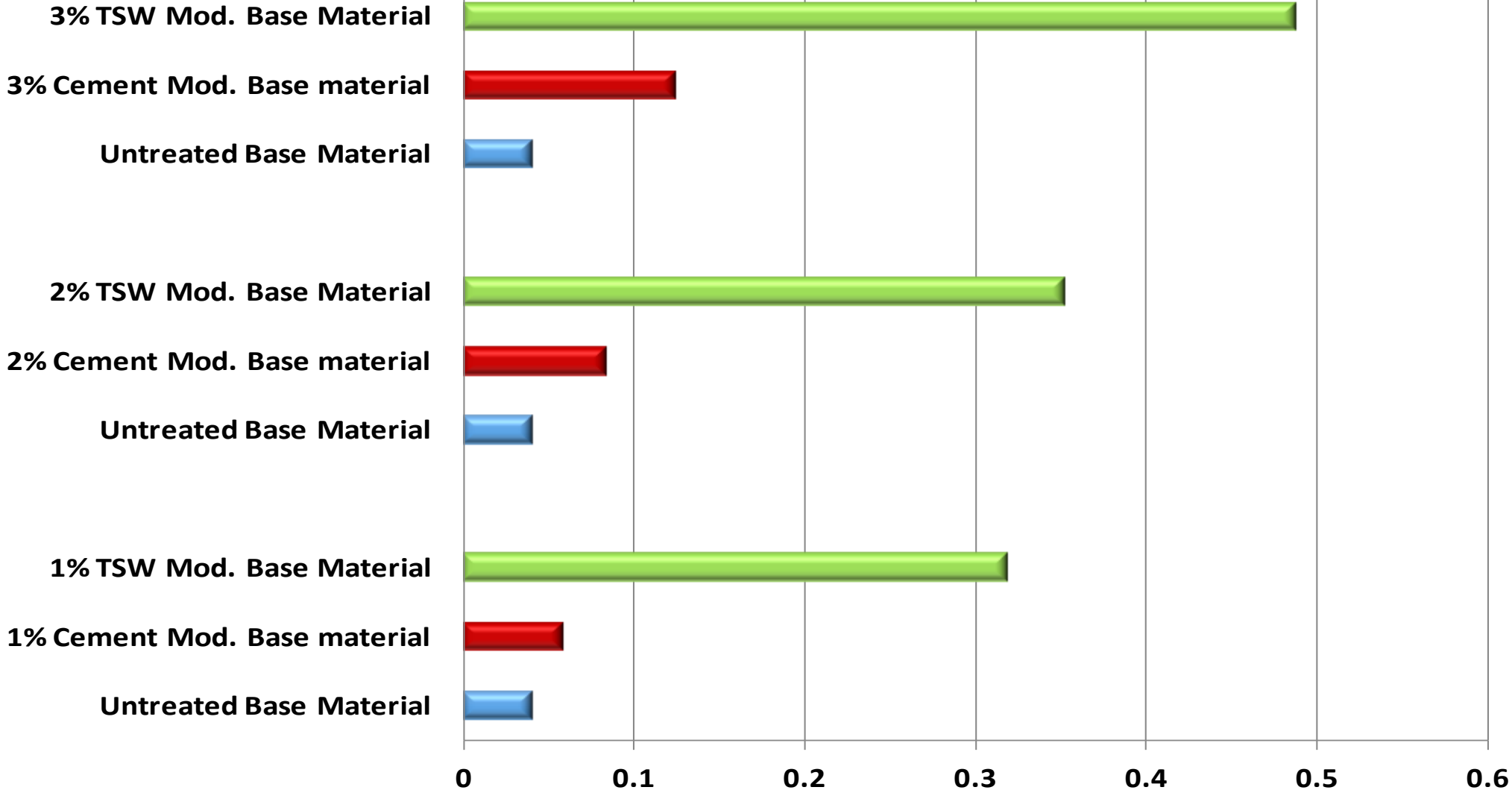
CBR Chart (California Bearing Rate)



Unconfined Compressive Strength

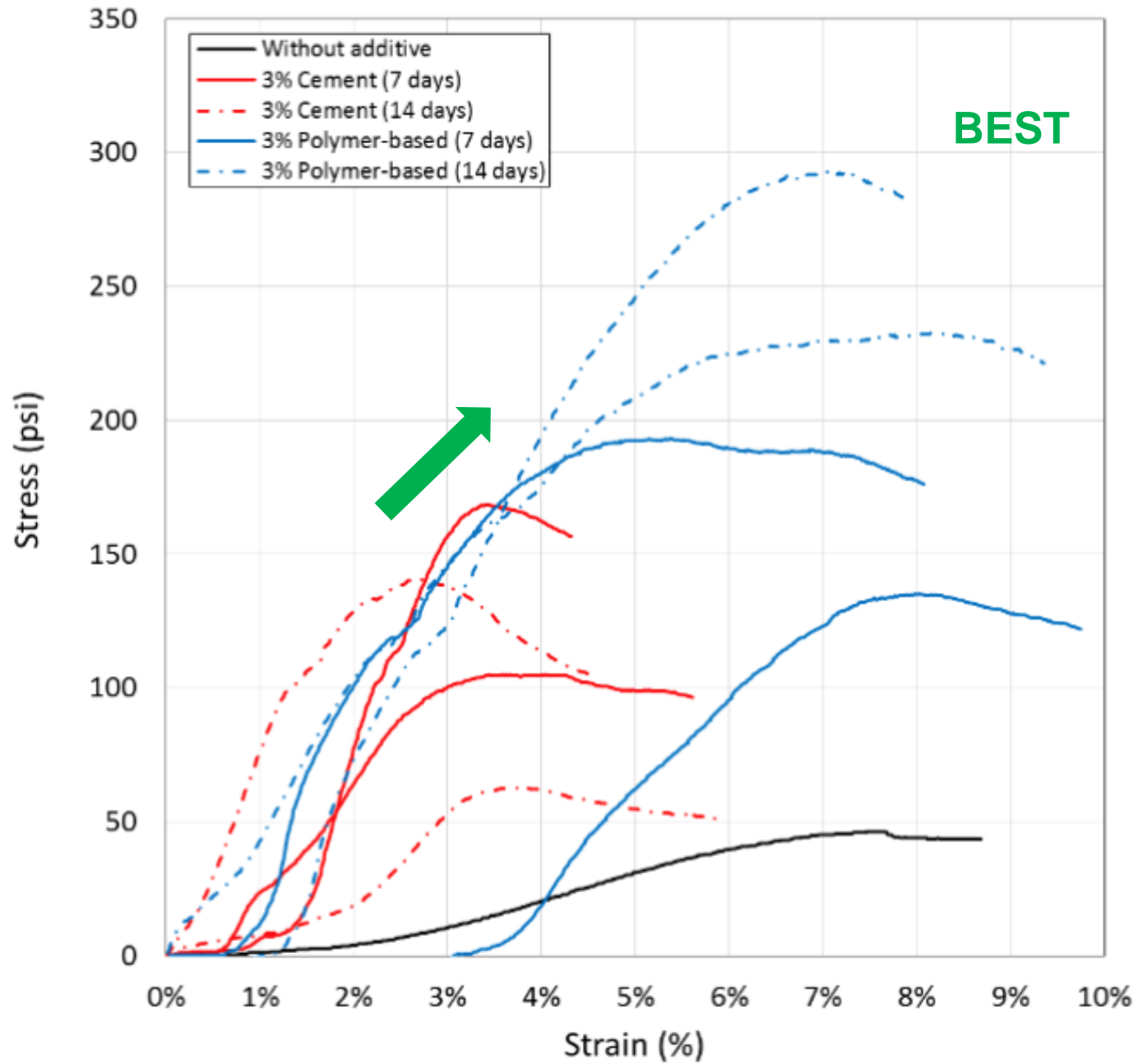


Indirect Tensile Test



1 MPa = 145 PSI

Tensile Strength, MPa (Megapascal)



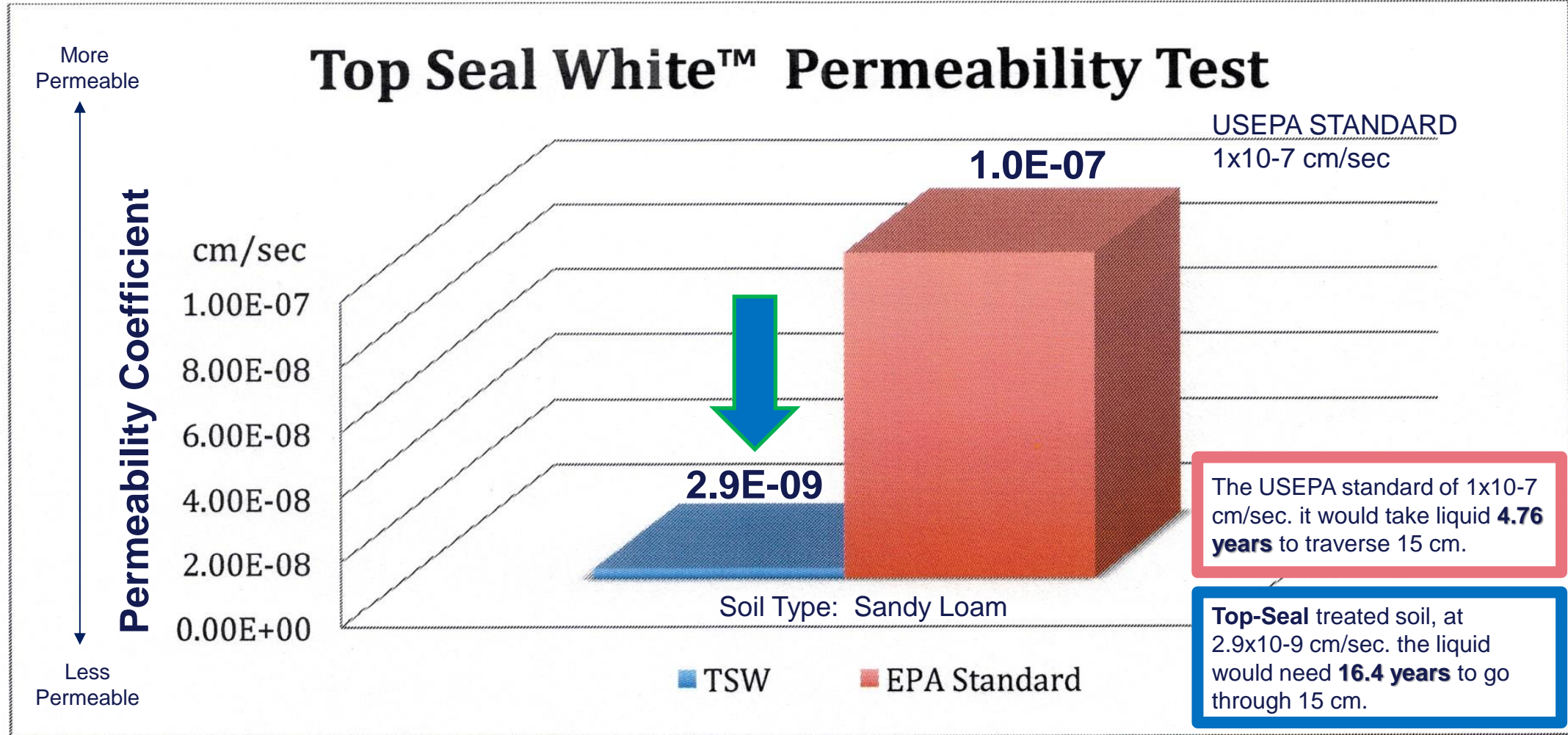
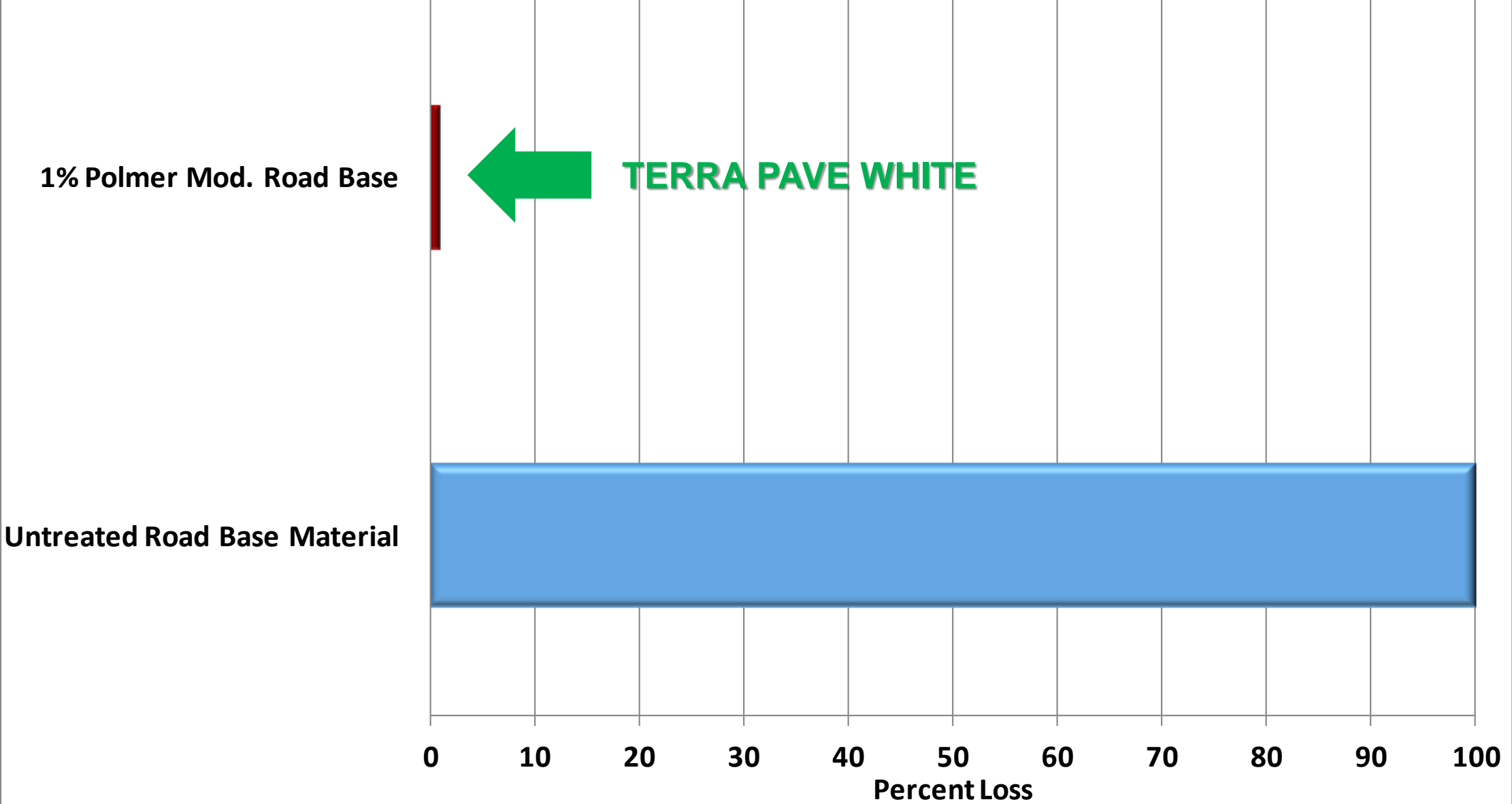


Figure 1: TSW vs. US EPA Standards

Erosion Resistance Test



BASE STABILIZATION

- **Vastly superior road base stability.**
- **A tremendous increase in strength and a significant reduction of permeability.**
- **Life expectancy of paved and unpaved roads will be significantly extended. 2x-4x times**

TOP-SEAL WHITE

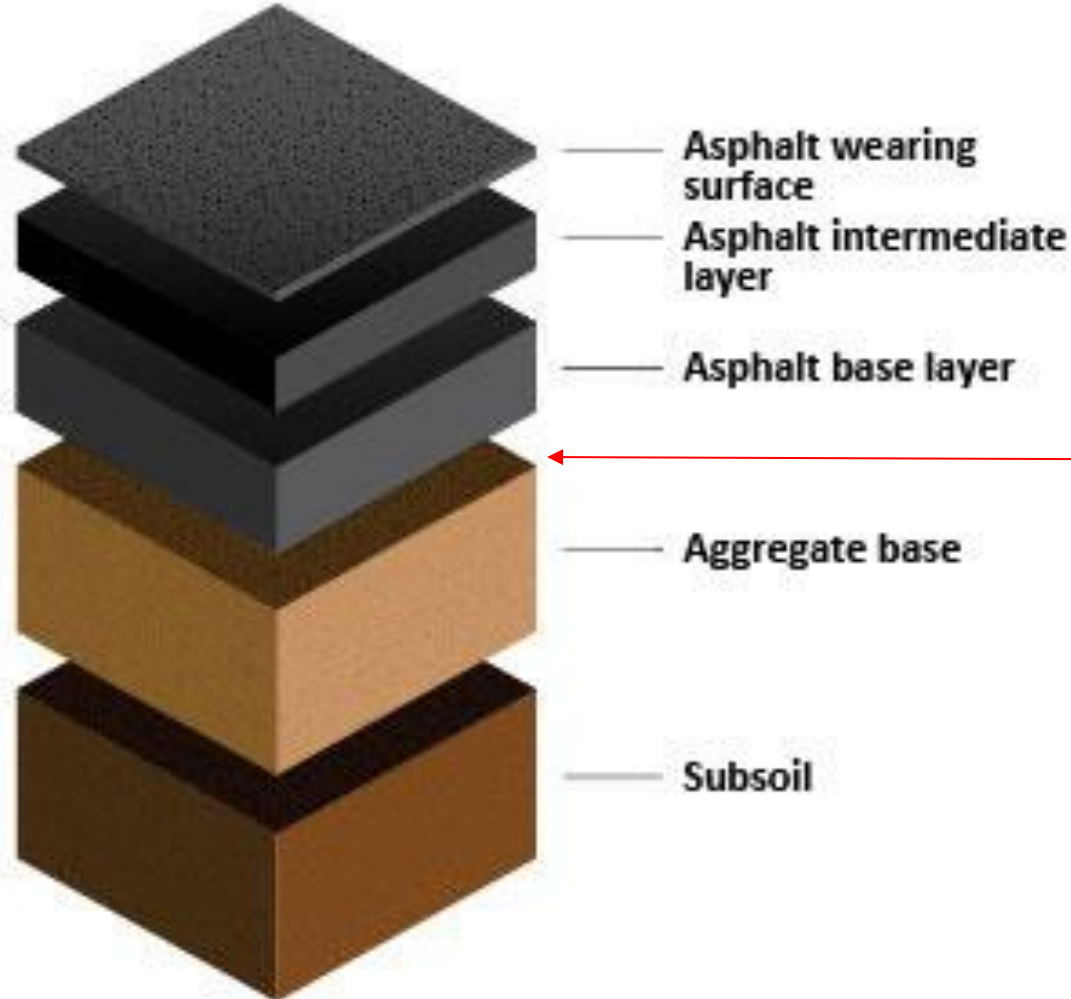


TOP-SEAL WHITE
and
TOP-SEAL BLACK

ASPHALT ROAD REPLACEMENT

TERRA PAVE WHITE & BLACK (BASE, CONCRETE, ASPHALT REPLACEMENT)

ASPHALT ROAD CROSS SECTION



Asphalt wearing surface

Asphalt intermediate layer

Asphalt base layer

Aggregate base

Subsoil



TERRA PAVE BLACK
(Asphalt Replacement)

NO MC-30/AEP is needed

TERRA PAVE WHITE
(Base Replacement)

TERRA PAVE WHITE & BLACK (BASE, CONCRETE, ASPHALT REPLACEMENT)

TERRA PAVE PRODUCTS – TPW & TPB

Concrete/Cement/Asphalt Replacement



BEFORE



AFTER

TPW after 24 hours of curing



AFTER

TPB after 48 hours

Loose soil



SHOW VIDEO
<https://youtu.be/hhcGYhf1HPs>



* Soil Grader



* Soil Compactor



* Water Sprayer

- ✓ NON-HAZADOUS
- ✓ NON-PETROLEUM BASED
- ✓ NON-TOXIC
- ✓ NON-CORROSIVE
- ✓ WATERPROOF
- ✓ IMPROVES BRAKING DISTANCE
- ✓ EROSION RESISTANCE
- ✓ NO SPECIAL HANDLING PROCEDURE
- ✓ NO SPECIAL EQUIPMENT NEEDED

Loose soil prepared for application of TSW



Application of Top-Seal White



Top-Seal White soaking into the soil into the base

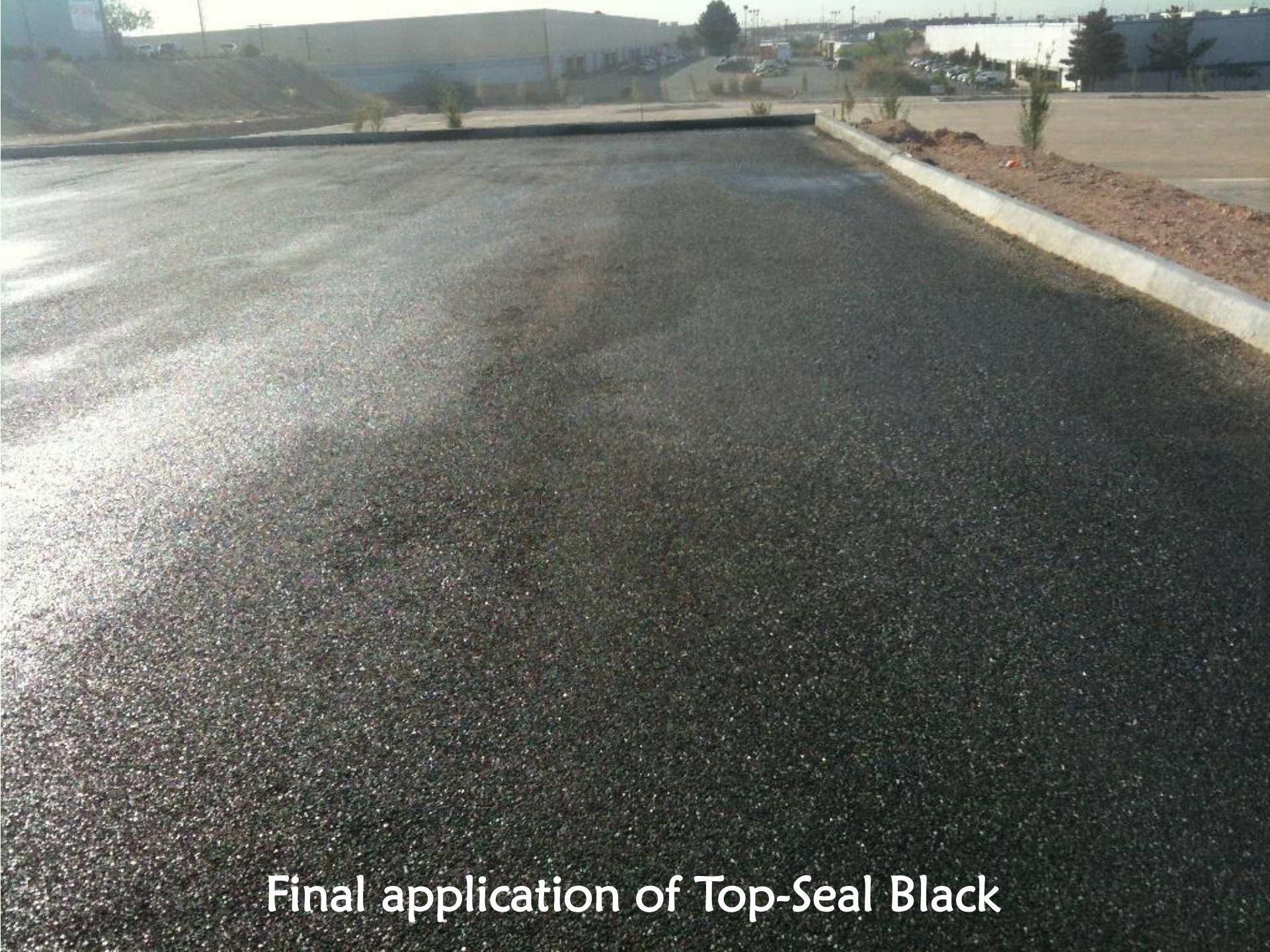


Top-Seal White after 24 hours of curing – close up



First application of Top-Seal Black



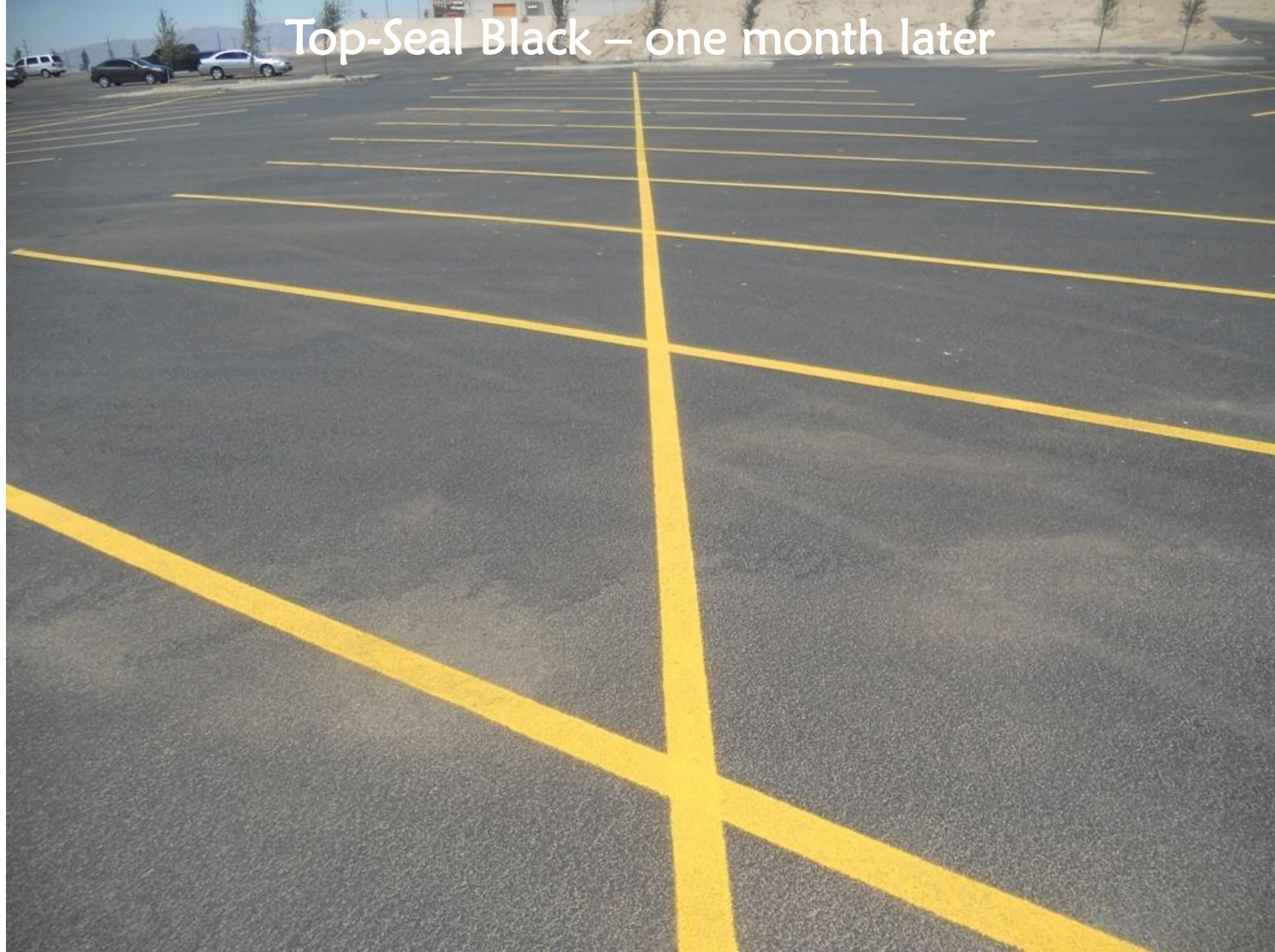


Final application of Top-Seal Black

Top-Seal Black – close up after 48 hours



Top-Seal Black – one month later



Top-Seal Black – Two Years later





TOP-SEAL TERRA PRIME
Replacement for TOXIC MC-30, AEP
Pavement Quality & Durability

PROMOTED and SOLD in MORE THAN 30 COUNTRIES,

TERRA PRIME (PRIME COAT)



Terra Prime improves highway quality and durability by **waterproofing, plug capillary voids, coat and bond loose mineral particles** in the sub-base layer of asphalt pavements. Terra Prime penetrates, bonds and stabilizes the sub-base layer of asphalt pavements, thereby waterproofing it before placing the hot mix asphalt. Reducing the heat-absorption from the sun.

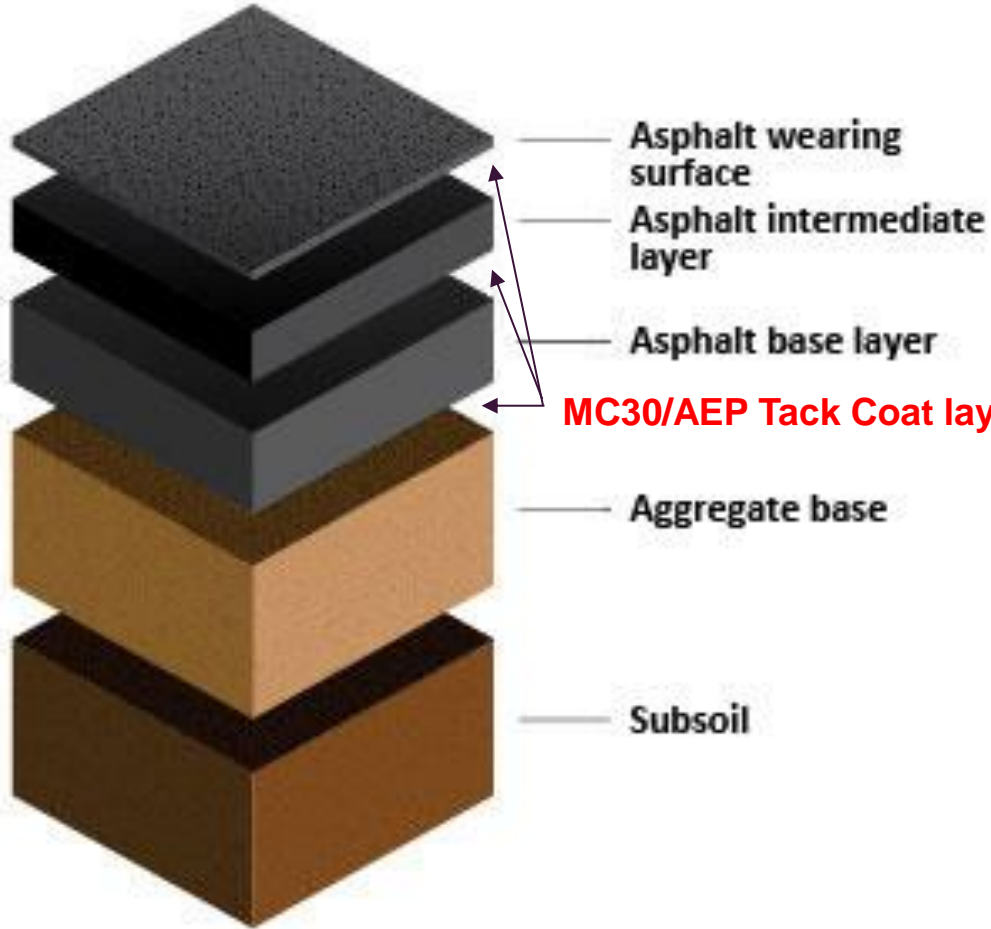
As a **replacement** for **Toxic/Cancer-Causing Kerosene of MC-30, AEP**, it has advantages such as:

- Water-based
- Cold-applied
- Faster Curing
- Greater Strength
- Non-flammable
- Non-toxic
- No VOCs (Volatile Organic Compounds)
- Reduce the heat-absorption from the sun



TERRA PRIME (PRIME COAT)

ASPHALT ROAD CROSS SECTION



Asphalt wearing surface

Asphalt intermediate layer

Asphalt base layer

MC30/AEP Tack Coat layers

Aggregate base

Subsoil



TERRA PRIME

(Toxic MC30, AEP Replacement)

- waterproofing,
- plug capillary voids
- coat and bond loose mineral particles

TERRA PAVE PRODUCTS - RECOMMENDATION

CITY OF SAN MARCOS, TX ENVIRONMENTAL ENGINEER

Product testing, done by San Antonio Texting Labs shows that it has no detectable concentrations of volatile, semivolatile, heavy metals or petroleum hydrocarbons. The analysis of TerraPave and AEP, and clearly shows the advantage of this product for human health and the environment. Costs are equivalent to AEP when comparing amount of product applied per unit area (gallons/ft² or yd²).

The Streets Department estimates that between 4500 to 6000 gallons of AEP oil is used each year on the city's mill and overlay projects performed in-house. By changing to TerraPave, the city will reduce the application of 37,500 to 50,040 pounds of oil each year to the environment. This total includes a reduction of 5,200 to 6,900 pounds of chemicals that are covered under the TCEQ's Texas Risk Reduction Program for spills to the environment.

Furthermore, the Streets Manager is also considering requiring all of the city's asphalt contractors to use TerraPave instead of AEP for city roads. This proactive step will have a significant multiplying benefit for the environment in San Marcos, Texas.

(a) Prepared by Elizabeth (Lisa) Arceneaux, P.E. local environmental engineer.

Lisa Arceneaux, P.E., CISEC, CPESC
Environmental Engineer
City of San Marcos, Texas



PACKAGING

TP products are packaged in **55 gallon (208 liter) drums** or in **275 gallon (1,040 liter) totes**. In the interest of convenience, it is highly recommended that TP products be delivered in 275 gallon totes. The totes require less handling and each tote is equipped with an on/off valve near the bottom for easy transfer of the product into a water truck.



ECOLOGICAL ESTATES LLC. / EEI Holding

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Thank You!



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West Pickle Research Center
The University of Texas at Austin
Austin, Texas USA

TERRA PAVE
INTERNATIONAL



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HAUL ROAD TOP-SEAL
Commercial Grade
Dust Pollution Control

PROMOTED and SOLD in MORE THAN 30 COUNTRIES



TOPICAL APPLICATIONS

Primarily Used for Dust Control and General Road Improvement

This type of application is the most common use for HRTS. It is cost-effective and easy to apply. All known environmental standards can be met or exceeded by using HRTS for eliminating dust pollution. Especially in mining operations where the dirt is toxic and cancer causing.



HAUL ROAD TOP-SEAL (HRTS)

HRTS is an excellent choice for **stabilizing haul roads and controlling extremely heavy amounts of dust pollution.**

Military Roads, Parking Lots, Quarries, Mines, Logging Roads



The HRTS program has been successfully used on haul roads with daily traffic extremes of hundreds of fully loaded trucks of 50 or more tons.

350 ton Trucks



INTERNATIONALLY RECOGNIZED

Featured on the cover of *Aggregates Manager* magazine, Terra Pave's former version of **Haul Road Top-Seal (HRTS™)** was internationally recognized for its excellent performance in controlling dust pollution at a large quarry in North Texas USA.



ONE YEAR AFTER INITIAL APPLICATION NO DUST

BASE STABILIZATION

COMPLETED PROJECT



BASE STABILIZATION

CONSTRUCTION of NEW ROADS or RECONSTRUCTION of EXISTING ROADS

This type of application requires the product to be mixed with water and distributed into the soil prior to each round of compaction.

This method is used primarily for rebuilding an unpaved road or for base stabilization of a paved road.