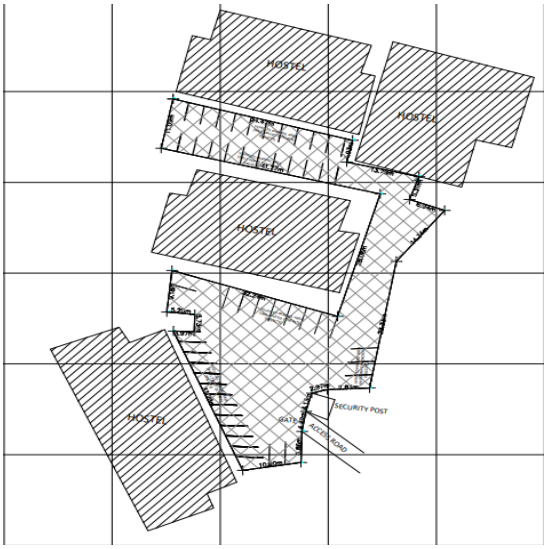
Basemastic S4

SUSTAINABLE SOIL STABILIZATION SOLUTIONS



INNOVATION

Originally developed for industrial roads, BMGP5 is a composite paving system with superior durability. Six times stronger than bitumous mixtures, it is the first natural paving system to exceed highway specifications for asphalt.

DURABILITY

Plastic based pavements have superior load capacity and can support the heaviest traffic. BMGP5 equally or surpasses conventional hot mix asphalt pavement in structural strength and durability.

ENVIRONMENT

BMGP5 natural pavement is green, sustainable and allows for leed accreditation and carbon credits. BMGP5 surface temperature are often 30°F - 40°F cooler than asphalt.

Basemastic BMGP5 Natural Pavement

THE POSSIBILITIES ARE ENDLESS


AGGREGATE COLOR OPTIONS
ARE ENDLESS.


GLOBAL INNOVATION WITH
BASEMASTIC BMGP5

Basemastic

Your solution for economic and environmental "civil works"

About us

Basemastic,LLC is an American Company, registered in the State of Maryland - USA, represented by its President & CEO Frank Kovi Sedjro. Basemastic was founded in 2010 with the goal of reducing the waste associated with traditional road construction methods and changing the world's expectations regarding timeframes, budgets, and locations when it comes to infrastructure development. Our brand-named and environmentally friendly, polymeric emulsions allow private, public and military entities to truly develop the most innovative pavement technologies.

Basemastic products are cost effective, non-toxic, environmentally safe and extremely strong, with a unique application that physically and chemically bonds soil or pavement particles. That means improved compressive strength, high tensile resilience and water impermeability

Why Basemastic ? And How It Works

Basemastic Advantages for Roads

Road designs vary greatly from country to country, but are generally calculated based on the performance metrics that need to be achieved. A super-highway will have a much larger profile of design than a rural road or urban road. However, all road profiles generally have three basic layers: base layer, sub-base and surface wear-course.

Traditional methods based solely on unstabilized base layer which only compacted with water and herein trust on the surface wear course with asphalt. When a wear-course asphalt begins to fail, evident by cracking and potholes, generally it is due to failures at the base or sub-base which is susceptible to water and vibratory erosion.

When integrating Basemastic into one (or all) of these three layers/sections of the road, it allows builders to gain several critical advantages that significantly reduce the traditional waste associated with modern road construction.

Key Benefits of Basemastic Products

- Saves over 30% of costs compared to conventional methods
- Ensures the road, waterproof and durable
- Reduced to 50% of maintenance costs
- Control and preserves dust and erosion
- Environmentally safe, Non-Toxic, Non Corrosive, Non Allergenic, Non Flammable
- Ensures the safety of workers
- Saves 100% of energy consumption

***Comparing Basemastic with traditional methods*:**

	Basemastic	Bitumen
Draws heat		X
Slippery when wet		X
Requires special skills to use		X
Soil Base Stabilization	X	
Waterproof	X	
Can be used to seal unpaved roads	X	
Rammed Earth bricks Fabrication	X	
Has multiple uses	X	
Nontoxic	X	
Non-polluting	X	
Easy to maintain	X	
Has product containers that can be reused for multiple purposes, such as storing drinking water	X	

OUR BASEMASTIC PRODUCTS

BASEMASTIC supply on the market three products based on ionic emulsion and copolymer for soil stabilization, paving, dust and erosion control.

BMGP5 is environmentally safe formulated liquid copolymer engineered for use in civil construction for paving. **It works as a sealant as well as a high performing stabilization agent.**

BMGP5 has superior load capacity and can support the heaviest traffic. His quality surpasses conventional hot mix asphalt pavement in structural strength and durability.

BMGP5 has an overall durability rating that exceeds all others stabilization product in the market with high performing stabilization agents that physically and chemically bonds soil

and other materials to improve surface flexibility, high tensile resilience and water permeability.

The key areas to use **BMGP5** as a polymer seal and/or stabilization agent are:

- New road construction surface wear course sealing
- Asphalt road recycled pavement
- in situ treatment improver
- Sealing or stabilizing rural roads, industrial roads , roads shoulders , side tracks, car parks,
- Pothole repairs
- Stable, flexible ,waterproof surface and preventing potholing
- Improved skid resistance and decreased rolling resistance

EPS-PM5O is Eco-Safe Biodegradable liquid copolymer used to obtain a base layer and foundation stable, highly resistant and waterproof prior to coating.

EPS-PM5O is available as a clear opaque or black polymer. Both varieties are high performing stabilization agents that work physically and chemically bonding soil or pavement particles to improve compressive strength, high tensile resilience and water permeability.

EPS-PM5O is designed to treat:

- Natural or manufactured granular pavement materials
- In situ recycled pavement
- Subgrade materials such as clays, silt and sand
- Rural, industrial and farming road
- Oil field service road , pads, facilities
- Base and sub-base layers of major public roads and highways

BM-CCH$_2$O™ is dust control solution, a versatile and sustainable modified polymer, engineered to combat the problem of fugitive dust and soil stabilization on unpaved roads. It has a unique combination of additives, which gives a clear watercolor but improves its UV resistance.

BM-CCH$_2$O™ dust control solution provides effective dust mitigation on a range of unpaved surfaces, including:

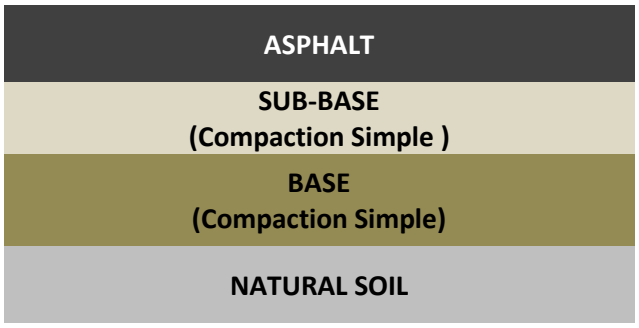
- Remote installations and accesses
- Low and High Volume Roads
- Car and Truck Parks
- Hardstands / Lay Down Yards
- New development area and detour
- Mining access Road

Innovative Technology

The Innovative Technology is a new approach to the construction of roads to increase their lifespan compared to different traditional methods in which their trust is placed on the visible appearance of the surface coating engrave with bituminous binder on an unstabilized base by compacting earth without additives of any stabilizer. This Technology rather invests in the earth to create a base layer and sub-base stable, resistant and waterproof, prior to any choice of coating.

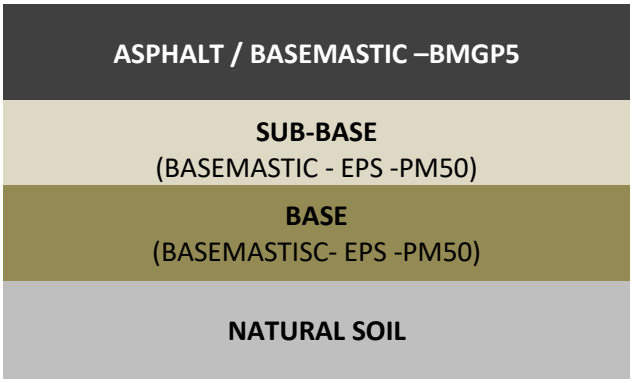
TRADITIONAL METHOD

Traditional Method with compaction simple

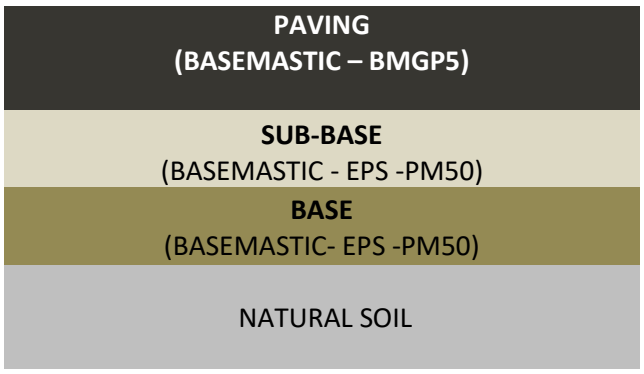


BASEMASTIC METHODS

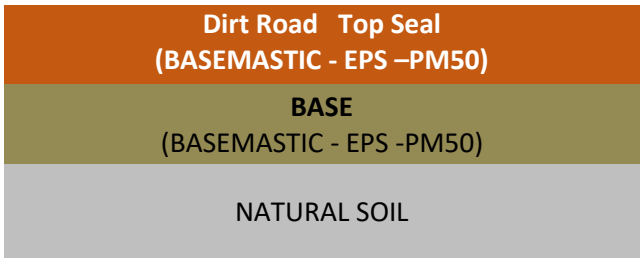
Method used for grand traffic road construction



Method used for urban roads rehabilitation



Method used for rural roads



PROCEDURES REQUIREMENTS

• Geotechnical laboratory study to determine the type of soil, its mechanical and physical properties.

• A list of information to meet the standard norms (average daily traffic, the carrier charges, annual weather conditions, the provisions of drainage) as applied to the roads construction.

• Complete information on the current condition of the roadway to determine the contribution of materials is necessary

APPLICATIONS

• **Step 1:** Scarification of the road by a grader up to a depth of 15 cm, 20 cm, or 30 cm depending on loading bearing .

• **Step 2:** Improved unstabilized soil with **BASEMASTIC -EPS-PM50** / **BMGP5** (stabilizing polymer product) on the surface of the road (ie 3.5 L per m2) with a tanker with spray bar

• **Step 3:** Mixed **BASEMASTIC** product evenly so that the solution reaches its base depth with the use of a grader or a recycler-mixer or an agricultural machine Rotovator

• **Step 4:** Reshaping the roadway with drainage slope possible

• **Step 5:** Compaction: with sheep compactor then Smooth roller compactors for finishing

• **Step 6:** Install the sub-base with **BASEMASTIC -EPS-PM50 / BMGP5** product on top of base layer , then compact it with smooth roller compactor

• **Step 7:** Install surface wear course with **BASEMASTIC BMGP5** and by Paver Finisher

• **Step 8:** Seal the road surface with **BASEMASTIC BMGP5**

- **EQUIPMENT REQUIRED FOR APPLYING BASEMASTIC PRODUCTS**

  GRADER WITH Ripper

  • RECYCLER MIXER

  • COMPACTOR SHEEP FOOT

  • ROLLER COMPACTOR SMOOTH

  • WATER TRUCK

- **PAVER FINISHER**

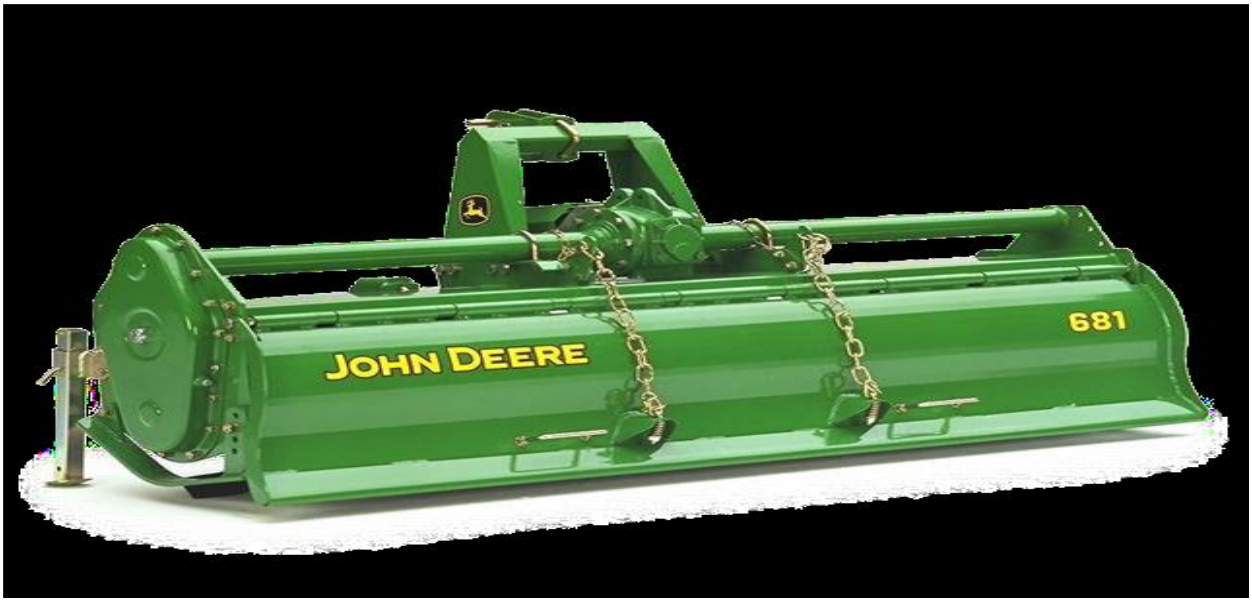
1. GRADER WITH RIPPER

2. WATER TRUCK

3. WATER TRUCK WITH SPRAY BAR

4. MIXING EQUIPMENT

A. ROTOVATOR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B. RECYCLER MIXER

5. COMPACTION EQUIPMENTS

A. SHEEP FOOT COMPACTOR

B. PNEUMATIC COMPACTOR

C. SMOOTH ROLLER COMPACTOR

PAVER FINISHER

Step 1. & 2. Scarification and impregnation of BASEMASTIC product

Step 3. Soil mixed with BASEMASTIC product (Recycling Mixer)

Step 4. Reshaping of the base layer

Step 5. Compaction

Step 6, 7,8. Road Sealing & finishing with BASEMASTIC


DH

BASEMASTIC, as an alternative to asphalt and concrete roads

What is Basemastic EPS-PM50	**EPS-PM5O is Eco-Safe Biodegradable liquid copolymer used to obtain a base layer and foundation stable, highly resistant and waterproof prior to coating.** EPS-PM5O is available as a clear opaque or black polymer. Both varieties are high performing stabilization agents that work physically and chemically bonding soil or pavement particles to improve compressive strength, high tensile resilience and water permeability
What is Basemastic BMGP5	**BMGP5 is environmentally safe formulated liquid copolymer engineered for use in civil construction for paving. It works as a sealant as well as a high performing stabilization agent**. **BMGP5** has superior load capacity and can support the heaviest traffic. His quality surpasses conventional hot mix asphalt pavement in structural strength and durability. **BMGP5** has an overall durability rating that exceeds all others stabilization product in the market with high performing stabilization agents that physically and chemically bonds soil and other materials to improve surface flexibility, high tensile resilience and water permeability.
What is Basemastic BM-CCH$_2$O	**BM-CCH$_2$O™** is dust control solution, a versatile and sustainable modified polymer, engineered to combat the problem of fugitive dust and soil stabilization on unpaved roads. It has a unique combination of additives, which gives a clear watercolor but improves its UV resistance.

What is asphalt?	The bitumen or asphalt is a petroleum residue after refining. The refined oil tare is usually mixed with aggregates (sand or engrave) to give the final product is commonly called bitumen. The bitumen also has a unique polymeric appearance. While not being a polymer in the strict sense of the word, is a thermo-plastic product. He softened warm, and cold hardens. .
What is Concrete?	The concrete component is granular product (aggregates) and binder (cement) which fills the space between the particles and bind together. Concrete is widely used in architecturally structures, foundations, bricks, paved, bridges, roads ... Concrete is generally more durable than asphalt, but can crack and crumble easily if it is not reinforced by armature iron bars
Can we replace BASEMASTIC BMGP5 with bitumen or asphalt?	**Yes - BASEMASTIC BMGP5** is the only first natural paving product to exceed highway specification compared to asphalt **INNOVATION**: **BMGP5** originally developed for industrial roads; **BMGP5** is a composite paving product with superior durability, six times stronger than bitumen mixtures. **DURABILITY: BMGP5** is plastic based polymer pavement product that have superior load capacity and can support the heaviest traffic. **BMGP5** surpasses conventional hot mix asphalt pavement in structural strength and durability. **ENVIRONMENT: BMGP5** is green natural pavement product, sustainable and carbon free. **BMGP5** surface temperature are often 30°F - 40 °F cooler than asphalt The bitumen functions essentially as a surface coating which is generally independent of soil. The diversity of functions between the two products, logically show their performance and can be used as replacement of asphalt alternative.

Compressive Strength – Load bearing	**Depth** — **Weight** **150mm** — **40 TN** **200mm** — **80 TN** **250mm (two layers of 150mm & 100 mm each) 150 TN** **300mm (two layers of 200mm & 100 mm each) 500 + TN**
Cost comparison between BASEMASTIC and bitumen	. The comparison of costs between EPS-PM50 / BMGP5 and bitumen in road construction varies from country to country and region. These differences are highlighted by the soil types, the cost of labor, the topography, geography, economics, etc. One thing is certain, regardless of the factor, the BASEMASTIC products have always been cheaper from 20 to 30% as bitumen road construction
CAN COMPRESSED EARTH BUILDING BLOCKS BE A VIABLE BUILDING MATERIAL FOR AFFORDABLE HOUSING?	The research shown that to use local soils for making compressed earth blocks for affordable residential buildings Which increasing globally the demands for low-cost housing. The stabilization process works well even with highly expansive clays. You will need to include a polymer to increase durability of the building block and this should balance the cost. Cement is a popular choice for the stabilization of clay soils, particularly in any country where the polymer is less.
Key benefits of stabilized compressed block	• Cost effective • Environment friendly • Solid, Durable • Fast construction

Comparison of BASEMASTIC vs Bitumen	• Some bitumen types are a carcinogen. Basemastic products are not. • The bitumen, because of its color draws heat. Basemastic products are not. • The bitumen can be slippery when wet. Basemastic products are not • The bitumen is limited to above ground. Basemastic products are not • Basemastic products are used to prepare the base for a bitumen road surface and sidewalks. • Basemastic products are impervious to moisture. Some are waterproof bitumen when sealed. • Basemastic products are not affected by bitumen temperature Basemastic products are used to seal the surface of the unpaved roads. • Basemastic products have multiples uses such as bricks fabrication and building houses. • Basemastic products are not require complex skills to use. Bitumen requires more technical expertise and more machines and personnel. • Basemastic products are non-toxic, non-polluting to the environment. The bitumen is not. • Roads built with Basemastic products are easier to maintain, and maintenance costs are lower. The bitumen is not. • The Basemastic products containers can be reused for multiple purposes, such as storage of drinking water etc. The bitumen containers cannot be reused for the same purpose