PROPER INSTALLATION OF PAVING FABRIC INTERLAYERS WHEN PLACED PRIOR TO CHIP SEALING

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ABSTRACT: The problem facing the pavement owner today is how to obtain or exceed a pavement's design life, while working with shrinking budgets and increasing repair needs.

All levels of government are searching for better preventive maintenance strategies. One strategy is placing an asphalt-saturated paving fabric interlayer underneath a chip seal to extend the life of an asphalt pavement, retard reflective cracking, prevent surface water infiltration, and decrease road maintenance costs. Placing a paving fabric interlayer prior to chip sealing is similar, but does differ, when placed prior to an asphalt concrete overlay. The user who wishes to use this strategy needs to be aware of the placement differences in order to realize its benefits.

This paper will discuss the proper placement of paving fabric interlayers on asphalt concrete pavements, when used in conjunction with chip seals, and the common problems that can be encountered and addressed during the construction process.

INTRODUCTION

This paper provides guidelines on the proper installation of paving fabric interlayers (paving fabric) when placed immediately prior to chip sealing an asphalt concrete pavement. Placing paving fabric interlayers prior to chip sealing a roadway is a cost-effective maintenance solution for pavements exposed to extreme ambient temperatures (extreme daytime heat and freezing evening temperatures) and surface water infiltration.

Many have experience placing paving fabric prior to an asphalt concrete overlay, which is similar but not identical when placing paving fabric prior to a chip seal. Reason being, chip seals do not have the heat or weight that an asphalt concrete overlay does. Saturation of the paving fabric is essential with both applications. Less paving grade asphalt is required when placing fabric prior to an asphalt concrete overlay because the heat and weight of asphalt concrete overlays draw the underlying paving grade asphalt through the paving fabric to obtain the necessary saturation. Because chip seals do not have the heat and weight that asphalt concrete overlays do, modifications must be made to the placement of the paving fabric to insure the same level of success.

The paving grade asphalt bonds the paving fabric to the asphalt concrete pavement. When these two products (paving fabric system) are placed together on an asphalt concrete pavement, they form an asphalt membrane interlayer which reduces reflective cracking and acts as a barrier to surface water infiltration which limits softening of the subgrade.

The key to receiving these benefits is the proper installation of the paving grade asphalt and the paving fabric.

This paper will serve as a guide for the various steps involved in placing paving fabric interlayers, including:

Site Selection
Materials
Equipment

Weather
Surface Preparation
Applying Paving Grade Asphalt
Installing Paving Fabric
Sanding and Rolling
Preparing the Paving Fabric Surface for Chip Sealing

SITE SELECTION

Chip sealing over paving fabric is designed for specific conditions and is a cost effective pavement preservation treatment when you are considering the various strategies in your pavement preservation toolbox. This pavement preservation treatment has great benefits if applied on the right road at the right time.

Chip seals can be placed on winding curves and steep grades; however, these areas may have to be evaluated when placing a chip seal in conjunction with a paving fabric.

Paving fabrics can be placed on vertical grades of ten (10) percent or less. Paving fabrics can be placed on vertical grades greater than 10 percent, but require additional consideration in the design phase. Paving fabrics can also be placed on straight sections of pavement as well as on gradual horizontal curves.

There are some areas that should be avoided to prevent paving fabric slippage such as:

Intersection radius,
Traffic circles
Horizontal curves with a radius of 200 feet or less,
Bubble portion of a cul-de-sac
Areas of hard starting, stopping or turning and include intersections where high wheel loads are expected,
Sharp curves, and
Subgrade water penetration from high water tables.

MATERIALS

Paving Grade Asphalt

The paving fabric system consists of a paving fabric interlayer placed on top of binder. The grade of the binder should be an aged residue (AR), asphalt cement (AC) or performance grade (PG) of uncut asphalt cement based on local availability of binder resources. For the purpose of this paper, the binder is referred to as paving grade asphalt.

The paving grade asphalt should be selected based on the maximum and minimum ambient temperatures experienced at the job site throughout the year, not just at the time of placement. Reason being, the paving grade asphalt should be flexible so that it hardens, not brittle, when exposed to cold temperatures. The paving grade asphalt should soften, not liquefy, when exposed to hot ambient or pavement temperatures.

Asphalt emulsions have been used but are not recommended as a binder for the fabric. Reason being, the emulsion's application rate must be increased to allow for complete evaporation of the water and additives present in the emulsified asphalt. If an emulsion must be used, it is important that a sufficient amount of time be allowed for the emulsion to completely cure before placing the paving fabric; the time required typically is not available during the construction process when one is also trying to accomplish production. The length of time required for all the water and additives to evaporate from the emulsion is dependent on the type of emulsion used and weather conditions. If emulsions are used, expertise in the selection of the emulsion, rate of application, cure time and the chip seal aggregate to be used should be considered.

A "Certificate of Compliance", that provides the information required by the project's specifications, should be furnished from the manufacturer to the project engineer for each shipment (truck load) delivered to the job site.

Paving Fabric

The paving fabric is typically a nonwoven, needle-punched paving fabric which absorbs and holds the asphalt cement binder to provide a durable, stable, waterproofing membrane designed for use in pavement preservation.

One side of the fabric is heat-set and appears as a smooth surface; the other side is not heat-set and appears fuzzy. The fuzzy side of the paving fabric comes in contact with the asphalt cement binder. The heat-set side helps reduce bleed-through of the asphalt cement and helps prevent pick-up by traffic during warm or hot weather installation. The heat-set side is not placed against the asphalt cement binder.

The paving fabric is wound on a high strength thick walled composite tube or core commonly referred to as fabric rolls. The fabric rolls come in various widths to match most roadway requirements, such as the width of a travel lane or shoulder. The length and weight of a paving fabric roll is dependent on the width of the fabric roll. The mechanical and physical properties of fabric rolls are as follows:

MINIMUM MECHANICAL PROPERTIES TEST METHOD UNIT AVERAGE ROLL VALUE

Grab Tensile Strength	ASTM D 4632	Lbs (kN)	101 (0.45)
Machine and Cross Direction Grab Tensile Elongation	ASTM D 4632	%	101 (0.45)
Machine and Cross DirectionGrab Tensile Asphalt Saturated	ASTM D 4632[1]	Lbs (kN)	200 (0.90)
Grab Tensile Elongation	ASTM D 4632[1]	%	40-70
Asphalt Saturated Mullen Burst Strength	ASTM D 3786	psi (kPa)	200(1378)
Asphalt Retention	ASTM D 6140	Gal/SY	0.25
Area Asphalt Saturated TX DOT 3099 % +/- 15		oz/sf(l/sm)	3.6(1.13)
Change in Melting Point	ASTM D 276	°F(ºC)	325(163)
Mass per Unit Area	ASTM D 5261	oz/cy(g/sm)	4.1 (139)
UV Resistance after 500 Hours	ASTM D 4365	% Strength Retained	70

PHYSICAL PROPERTIES UNIT TYPICAL VALUE

Roll Width ft (m) 10.5 (3.2) 12.5 (3.8) 14.5 (4.4) Roll Length ft (m) 360 (110) 360 (110) 360 (110) Roll Area sy (sm) 420 (351) 500 (418) 580 (484) Estimated Roll Weight lbs (kg) 115 (52) 137 (62) 159 (72)

[1] Modification to procedure: Sample is saturated with Asphalt

A “Certificate of Compliance”, that provides the information required by the projects specifications, should be furnished from the manufacturer to the project engineer for each shipment (truck load) delivered to the job site.

Sand

Sand should be uniform, clean and free from deleterious matter and organic contaminants and should conform to the following gradation:

Sieve Size	**Percent Passing**
3/8-inch	100
No. 4	90-100
No. 200	0-5

EQUIPMENT

Distributor Truck

The distributor truck provides a uniform application rate of the binder which is critical to ensure the paving fabric is saturated with paving grade asphalt in order to provide its full waterproofing benefit. It is common to see distributor trucks equipment with computerized rate controls for controlling and adjusting the application rate.

Prior to applying the paving grade asphalt, check that the proper size spray nozzles are installed; this is critical in providing a uniform application. The height of the spray bar and spray nozzles should be adjusted to attain the correct spray width.

Paving Fabric Installation Equipment

Installers typically use a tractor, front-end loader or a distributor truck that is specially designed to hold and place the fabric roll. Each of these has attachments to lay down the paving fabric, provide uniform tension, and broom the paving fabric smooth during placement.

The lay down equipment consists of a roll brake at each end of the fabric boom to prevent uncontrolled rolling of the paving fabric, adjustable brake tension to limit wrinkling, and brooms to smooth out the paving fabric as it is placed. The tension bar is also adjustable to smooth out the paving fabric; best results are obtained if the tension bar is bowed out. A pipe can be inserted in the core of the roll to prevent unwanted sagging which can cause wrinkling of the paving fabric.

If a distributor truck is used, the distributor truck will have the hydraulic lay down apparatus mounted on the rear of the truck. However, the ability to monitor the nozzles on the spray bar is limited due to the location of the lay down equipment with the spray bar. This can be addressed by an employee assigned to the rear of the truck to monitor both the nozzles on the spray bar and the fabric lay down equipment during fabric placement operations.

During cool or warm ambient temperatures, all three pieces of equipment are successful in placing the paving fabric immediately behind binder application. However, during warm or hot ambient temperatures, it is recommended that either a tractor or front-end loader be used to place the fabric. Reason being, fabric placement can be delayed to allow the binder to cool and prevent premature saturation of the paving fabric.

Sand Distributor Truck

A mechanical spreader, capable of spreading sand uniformly, is used to spread sand on the paving fabric. The spreader should be equipped with a mechanism for adjusting the spread rate. Typically a sand truck is used for spreading the sand over the paving fabric. However, any means of spreading the sand uniformly is acceptable. Sanding may be avoided if the pneumatic-tired rollers are equipped with a spray system, including check valves on nozzles, to apply a parting agent to the roller tires.

Pneumatic-Tired Rollers

Pneumatic-tired rollers are used to embed the paving fabric into the underlying paving fabric binder. An adequate number of rollers should be used on the job site to immediately embed the full width and length of the paving fabric. Pneumatic-tired rollers used for asphalt concrete overlay projects meet the same requirements for rollers for this process.

To avoid the need for sanding, pneumatic-tired rollers should be equipped with a spray system, including check valves on the nozzles, to apply a parting agent to the roller tires.

Miscellaneous Equipment

There are other small pieces of equipment that will help the installation of the paving fabric that cannot be addressed by the equipment address thus far, these are:

- Utility knife or scissors for removing longitudinal overlaps or trimming excess folds.
- Stiff bristle push brooms to help embed the fabric into the tack coat or address folds.
- Pipe to insert inside the fabric roll core to prevent unwanted sagging which can cause wrinkling of the paving fabric.
- Hand wand on the distributor truck to spray paving grade asphalt in areas that cannot be reached by the distributor truck's spray bar.

WEATHER

Typically, the ambient and pavement temperature requirements for placing paving grade asphalt are similar for placing hot mix overlays; typically 50°F (10°C). This is beneficial because placement of the hot mix overlay can begin immediately after the placement of the paving fabric.

However, the ambient and pavement temperature requirements for placing chip seal emulsion are higher than what is required for paving grade asphalt. It is then recommended that placement of the paving grade asphalt does not begin until the required temperatures for placing the chip seal emulsion have been reached. By following this recommendation, chip seal operations can begin once paving fabric embedment is completed.

SURFACE PREPARATION

Addressing Isolated Pavement Distress

The existing pavement surface should be reviewed to determine if there are any signs of structural or subgrade distress, such as severe alligator cracking or pavement deformation. The chip seal over paving fabric is a surface treatment and will not address, correct or improve deficiencies in the pavement's structural section.

The pavement surface should also be evaluated to determine what surface preparation is required, such as wide surface cracks. Cracks that range from 1/8-inch to 3/8-inch (3.175 mm to 9.525 mm) can be filled with a crack sealant to prevent the fabric's binder from flowing down

into the crack and not being able to saturate the paving fabric. Cracks that are greater than 3/8inch (9.525 mm) require a crack filler such as an asphalt leveling course, slurry emulsion, or commercial crack filler. Crack filler should be flush with, or slightly below, the surrounding pavement. If the crack filler is higher than the surrounding pavement, a bump will be noticeable physically and visually after the chip seal is placed. Wide cracks that are not addressed could cause chip loss which may be an aesthetic issue for the agency.

After the isolated distress areas and surface cracks are addressed, the existing pavement surface should have a flat, uniform surface that is free of dirt, dust, debris, water, oil or any other foreign matter. The road should be swept in order to provide a clean surface for the fabric binder to bond to the pavement. If properly prepared, the fabric binder and paving fabric should be able to cover the entire pavement surface.

Protect Utilities

Temporary covers should be placed to protect items located within the pavement surface such as survey monument covers, utility access covers, valve covers, and portland cement concrete pads surrounding these items. Pavement markers (e.g. ceramic and reflective) and delineators should be removed in order to provide a flat, uniform pavement surface.

Prevent Exposure to Water

If rain occurs prior to placement of the chip seal, it will not hurt the fabric system because it is saturated with paving grade asphalt which protects the paving fabric and seals the pavement. If the paving fabric surface is exposed to moisture or ponding water, the skid resistance may be reduced. Areas exposed to moisture may require additional sand, and warning signs should be placed until the area is dry and chip sealing is completed.

Protective measures should also be taken to prevent the fabric binder or chip seal emulsion from entering any water conveyance system (e.g., cross gutter, storm drain inlet, curb inlet, channel, etc.) Protective measures should also be taken from water entering or ponding on the roadway surface; moisture will affect the bonding of the paving grade asphalt and the chip seal.

Construction Warning Signs

Before spreading the paving grade asphalt, construction warning signs should be placed in advance and throughout the project site. The warning signs should include FRESH OIL and LOOSE GRAVEL to warn motorists about exposure to the fabric binder and sand cover. Signage requirements are normally specified by the agency.

All traffic (construction and public) should be maintained at speeds of 25 miles per hour (40 kilometers per hour) or less to prevent damage to the paving fabric.

APPLYING PAVING GRADE ASPHALT

The success of placing a chip seal over paving fabric is insuring the paving fabric is saturated with the correct grade and quantity of paving grade asphalt. As stated earlier, the binder recommended for paving fabric is AR, AC or PG grade of uncut asphalt cement (paving grade asphalt); asphalt emulsion is not recommended. Suitable binders are listed in Table 2:

Table 2: General Guide Lines for Asphalt Binders

Penetration Grade	AC Grades	AR Grades	PG Grades	Modified____
50			PG 70-22	SBS
			PG 76-22	
60	AC 20	AR 8000	PG 67-22	SBS
			PG 70-22	
			PG 64-22	
70	85 AC 10	AR 4000	PG 58-10	
100			PG 48-28	
120	AC 5	AR 2000	HPSPG 76-10	

Distributor Truck Operation

Before the work begins, each distributor truck should be calibrated to confirm it is applying the desired quantity of paving grade asphalt to the pavement surface. The distributor truck driver should have paperwork certifying calibration has been done within four weeks prior to the start of work; calibration can be done in the field if the agency desires. Proper application of the paving grade asphalt is critical to the successful placement of paving fabric and subsequent chip seal.

The distributor truck applies the paving grade asphalt in a uniform spray, free of streaks or gaps. The height of the spray bar and size of spray nozzles can be adjusted to obtain the correct spray width and overlap. The spray bars and nozzles should be clean and adjusted to the proper height and angle to provide uniform application.

Frequent starting and stopping of the distributor truck should be avoided to prevent nonuniform spread rates and overlaps which result in double applications.

Binder Temperature

The paving grade asphalt (binder) must remain liquid long enough to saturate the paving fabric and should be high enough in temperature to allow uniform application. While in the distributor truck, the allowable temperature range for uncut paving grade asphalt is 290°F to 325°F (143°C to 163°C). The proper amount of binder will saturate the paving fabric as well as bond the paving fabric to the pavement surface.

Binder Application

The temperature of the paving grade asphalt (binder) is generally 290°F to 350°F (143°C to 163°C) at the time of application. If the binder exceeds 350°F (177°C), it is important that the binder be allowed to cool before placing the paving fabric to prevent fabric shrinkage.

Agency requirements differ as to how much paving grade asphalt (binder) should be applied to saturate the paving fabric. In general, binder application rates range between 0.22 to 0.30-gallons per square yard (0.90 to 1.35 liter per square meter) to achieve optimum saturation and ease of construction.

The binder should extend two to four inches (50 to 100 mm) beyond all edges of the paving fabric, including overlaps, to insure the paving fabric edges are saturated and bonded to the pavement surface. Failing to saturate the paving fabric along the longitudinal and transverse edges will guarantee subsequent chip loss.

The condition of the existing pavement surface is one of the determining factors for determining the proper binder application rate; onsite weather conditions is another factor (ambient and wind).

The length of time the binder is able to stay in its liquid state is impacted when it comes in contact with cool or hot pavement temperatures, for example:

When binder is applied to a cool pavement, it can stiffen within seconds. Depending on field conditions, the binder may remain tacky long enough to hold the paving fabric in place. To be on the safe side, paving fabric should be placed on the binder immediately before the binder loses its tackiness.

When the binder is applied to a warm or hot ambient temperatures or pavement, the binder normally stays liquid long enough to saturate the paving fabric. Care should be taken not to over saturate the fabric as this can cause fabric slippage during warm or hot days. During hot weather you may observe premature saturation of the paving fabric. Depending on the field conditions, the binder application rate may need to be reduced or fabric placement limited to morning hours before the onset of the hot ambient temperatures; careful consideration must be done before deviating from the specification requirements.

Insufficient binder application can cause chip loss; should this occur, the fabric saturation can still be achieved by saved by increasing the application of the chip seal emulsion. Too little or too much binder application can cause slippage. The selection of the proper binder can reduce slippage as well.

A good indicator that you have an adequate amount of binder is if you notice binder in the wheel tracks of the fabric applicator if a tractor or front-end loader is used, or from the pneumatic-tired roller or construction vehicles that drive on the fabric.

INSTALLING PAVING FABRIC

The temperature of the paving grade asphalt (binder) is generally 290°F to 350°F (143°C to 163°C) at the time of application. If the binder exceeds 350°F (177°C), it is important that the binder be allowed to cool before placing the paving fabric to prevent fabric shrinkage.

The temperature of the binder drops very quickly after application, especially during cooler ambient temperatures. During cool temperatures it is important that the paving fabric be placed immediately after binder application in order to achieve fabric saturation. Should hot ambient temperatures be present, greater than 100°F (38°C), you may observe premature saturation of the paving fabric. Depending on the field conditions, the binder application rate may need to be reduced or fabric placement limited to morning hours before the onset of the hot ambient temperatures; careful consideration must be done before deviating from the specification requirements.

If a distributor truck is used to lay down the paving fabric, the distributor truck will have the hydraulic lay down apparatus mounted on the rear of the truck. However, the ability to monitor the nozzles on the spray bar is limited due to the location of the lay down equipment with the spray bar. Fabric placement can still be done successfully by having an employee assigned to the rear of the distributor truck to monitor both the nozzles on the spray bar and the fabric lay down equipment during fabric placement operations.

The fabric is unrolled so that the fuzzy side comes in contact with the binder; this provides optimum bonding to the binder.

As mentioned earlier, the binder should extend two to four inches beyond all edges of the paving fabric.

Similar to hot mix overlay projects, longitudinal joints of the paving fabric should be overlapped approximately two to four inches (50 to 100 mm). However, transverse joints should not be overlapped as they are on hot mix overlay projects. When paving fabric is being placed prior to a chip seal operation, it is important transverse joints be placed adjacent to each other without overlapping; this is referred to as a butt joint. If transverse joints are left overlapped, a bump will be noticeable audibly in the car ride after the chip seal is placed.

Folds that result in three layers of fabric must be removed since there is no tack coat between the layers. These excess layers of fabric can be removed by with the use of a utility knife. The use of a propane torch is not recommended because surrounding fabric can be damaged; as such, propane torches are not recommended unless it is done by a skilled fabric installer.

SANDING AND ROLLING

On asphalt concrete overlay projects it is not necessary to sand and embed the paving fabric with pneumatic-tired rollers. The heat and weight of the asphalt concrete overlay provides fabric saturation by drawing the paving grade asphalt (fabric binder) through the paving fabric; this also results in providing a tack coat on the surface of the paving fabric. The tacky fabric surface allows the asphalt concrete overlay to bond to the paving fabric.

However, when a paving fabric is placed in conjunction with a chip seal, this fabric saturation process will not occur unless the paving fabric is embedded into the underlying fabric binder with the use of pneumatic-tired rollers. Conventional chip seal emulsions do not have the heat or weight that an asphalt concrete overlay does. At the time of application, chip seal emulsion temperatures range from 130°F to 180°F (55°C to 80°C); asphalt concrete overlays range from 250°F (120°C) or higher. Therefore, modifications must be made to the construction process to obtain fabric saturation with the underlying binder.

To avoid the need for sanding, pneumatic-tired rollers equipped with a spray system, including check valves on the nozzles, to apply a parting agent to the roller tires. The parting agent helps prevent the roller tires from bonding to the fabric binder during the embedment process. If the rollers do not come equipped with such a system, then sanding may be necessary to prevent the tires from bonding to the fabric binder.

Applying Sand

After the paving fabric is placed, dry sand should be placed over paving fabric. The sand acts as a bond breaker and prevents the asphalt cement tack coat from coming in contact with tires from vehicular traffic, or from the pneumatic-tired rollers when seating the paving fabric into the underlying asphalt cement tack coat.

The sand remains in place until the road is ready for chip sealing. Depending on the agency requirements, chip sealing may or may not occur the same day the fabric is placed. If the chip seal is scheduled for a later date, it is important that the fabric surface is monitored to insure adequate sand is present to address any bleed through or exposure to surface moisture.

Sand should be dry in order to provide uniform coverage during application. If the sand is damp or wet, it may spread in clumps and will not provide uniform coverage to the paving fabric surface.

Rolling Operation

The pneumatic-tired rollers should make a minimum number of three passes on the paving fabric to insure the paving fabric is completely saturated by the underlying paving grade asphalt. However, more than three passes may be required.

What is important is the rolling operations should continue until the texture of the pavement surface is visible on the surface of the paving fabric. When this occurs, it is a sign that the paving fabric is properly saturated by the underlying paving grade asphalt.

DRIVING ON PAVING FABRIC

Generally traffic should not be allowed on the paving fabric. However, if it is necessary, precautions can be taken to prevent damage. All traffic (public and construction) should travel at low speeds (25 MPH or less). If the roadway is normally traveled at speeds greater than 25 MPH, a pilot car should be used to control traffic speeds on the fabric.

Installed fabric may have less skid resistance than dry pavement. Exposure to the tack coat, rainfall or moisture may further reduce the skid resistance. For these reasons, public traffic should not be permitted directly on the fabric until the fabric has been sanded because the sanding will help increase the skid resistance.

Should it be necessary for traffic to travel on the paving fabric prior to placing the hot mix overlay, this can occur by first broadcasting asphalt concrete on the fabric surface. The broadcast asphalt concrete will serve as a bond-breaker between the tires and the fabric binder.

Should it be necessary for traffic to travel on the paving fabric prior to chip sealing, this can occur by first broadcasting sand on the fabric surface. The broadcast sand will serve as a bond-breaker between the tires and the fabric binder.

PREPARING THE PAVING FABRIC SURFACE FOR CHIP SEALING

Once fabric embedment is completed, the roadway is ready for chip sealing. The fabric surface should be swept to remove any excess sand and provide a clean surface for the bonding of the chip seal emulsion. Sweeping can be done by mechanical means, such as mobile pick-up brooms or kick brooms.

After sweeping the fabric surface is completed, review the fabric surface to determine if there are any fabric defects such as folds or frayed fabric. These defects must be addressed before the chip seal emulsion is applied.

If proper fabric saturation is obtained, standard application rates for the chip seal emulsion can be applied. However, if there is concern that fabric saturation was not obtained, it is then necessary to complete the fabric saturation process by increasing the application rate of the chip seal emulsion. This will insure the fabric saturation was completed and there is a sufficient amount of emulsion on the fabric surface to retain the chips. Failing to increase the chip seal emulsion on a porous paving fabric may result in subsequent chip loss.

SUMMARY

It is common knowledge that asphalt pavements require maintenance to obtain or extend its design life. The problem facing the pavement owner today is how to obtain or exceed that pavement's design life, while working with shrinking budgets and increasing repair needs and costs.

There is a push for better preventive maintenance strategies at all levels of government. A growing number of cities, counties and states are now using this preventive maintenance strategy of placing an asphalt-saturated paving fabric interlayer immediately prior to a chip seal operation to prolong the life of an asphalt pavement, retard reflective cracking, prevent surface water infiltration, and decrease road maintenance costs.

Those agencies that have tried this process are finding that when the right road is selected for this process and proper preparation and construction occur, subsequent road maintenance is drastically reduced.

Agencies that have tried this strategy, placing a chip seal over fabric, are reporting there is no need for subsequent crack sealing for 10 to 20 years after placing the paving fabric. This can be attributed to proper road selection, road preparation, material selection and construction operations; each of which are important to make this preventive maintenance treatment successful.