

Pavement Fabric Construction Specification For Chip Seals

MATERIALS:

Pavement fabric shall be manufactured by an ISO approved facility of polypropylene or polyester nonwoven textile materials for the purpose of provided longer life to pavement overlays. The fabric shall be a needle punched nonwoven fabric; heat treated on one side and shall conform to the following:

	Test Method	Minimum Value
Mass per Unit Area, oz/yd ² (g/m ²)	ASTM D3776	4.1 (140)
Grab Tensile Strength, lb (N)	ASTM D4632	102 (450)
Grab Elongation at Break, %	ASTM D4632	55
Mullen Burst, psi (kPa)	ASTM D3786	200 (1370)
Asphalt Retention, gal/yd ² (l/m ²)	ASTM D6140	0.21 (0,95)

A Certificate of Compliance from the manufacturer of the fabric used on the project shall be furnished to the engineer. The fabric shall be furnished in a suitable covering, capable protecting the fabric from ultraviolet rays, abrasion, and water. Mirapave[®] 500 or approved equal paving fabric shall be used. Available from: **Mirafi[®]** Construction Products. Fax 706 693 2044 or Toll Free 800 685 9990.

Asphaltic Sealant: The Engineer shall approve the asphalt cement to be spread for the paving fabric. Paving grade asphalt of the same type used in the manufacture of asphalt hot mix of the overlay is acceptable and recommended.

EQUIPMENT:

Asphalt Distributor: The distributor must be suitably metered and capable of spraying the asphalt cement in a prescribed, uniform application rate. No drilling or skipping shall be permitted.

Fabric Handling Equipment: A tractor or other mechanical device with mounted lay down equipment shall be capable of handling full rolls of fabric and capable of placing the fabric down smoothly on the asphalt tack coat without excessive wrinkles and/or folds.

Miscellaneous Equipment: The availability of stiff bristle brooms to smooth the fabric and scissors (or blades) to cut the fabric should be provided by the contractor. Under some conditions, a pneumatic roller to smooth fabric into the asphalt cement may be required for proper installation.

CONSTRUCTION PROCEDURE: For Paving Fabrics With Chip Seals

Surface Preparation: The surface on which the fabric is to be placed should be free of dirt, water, and vegetation. An open crack, 1/4" in width or larger, shall be filled with sand mixed asphalt as directed by the engineer. Larger cracks or holes are to be repaired with cold or hot mix asphalt patch. In some cases, a leveling course may be specified prior to placing the fabric.

Application of Sealant: The asphaltic cement and binder must be uniformly spray-applied at the specified rate. The rate specified will vary with surface the condition of the existing pavement (degree of porosity, for example), but will be applied at approximately 0.25 gallons per square yard of residual asphalt.

Application of asphalt cement will be by distributor equipment whenever possible, with hand spraying kept to a minimum. Temperature of the asphalt cement must be sufficiently high to permit a uniform spray pattern. For asphalt cements, the minimum recommended temperature is 290° F, and should not exceed 325° F.

Fabric Placement: The fabric shall be placed into the asphaltic cement with a minimum of wrinkles before the asphalt has cooled and/or lost tackiness. The fabric shall be unrolled so that the bearded (fuzzy) side is unwound downward, into the sealant, thus providing optimum bond between fabric and pavement during the construction process. As directed by the engineer, wrinkles severe enough to cause "folds" shall be slit

and laid flat. Brooming can maximize fabric contact with the pavement surface.

Overlap of fabric joints should be minimal., Transverse joints may be “shingled” in the direction of paving to prevent edge pick-up by the paver. The contractor installing the fabric must show proof that they have no less than 4 years experience in placing paving fabrics.

The asphalt cement may bleed through the fabric before the chip seal is placed and it may be necessary to absorb any excess sealant by spreading sand over the affected areas. This will minimize the tendency for construction equipment to pick up the fabric when driving over it. Excess sand shall be removed by sweeping prior to the placement of the chip seal. Turning of the paver and other vehicles must be gradual and kept to a minimum to avoid movement or damage to the paving fabric.

Applications with chip seals and other surface treatments are exercise in technique. Care must be taken to insure that strict compliance to the installation procedures are followed. The installed fabric should be prepared to accept the chip seal procedure by rolling the fabric with a rubber tire roller or leaving it open to traffic to kneed the fabric into the existing pavement. Caution advised if the fabric is to be left open to traffic. Appropriate signing should be used and the construction site should be identified to advise motorist that the surface may have less resistance than a normal pavement.

Application of chip seal shall conform to specification provided and installed on the paving fabric in the same manner as if the surface was a normal asphalt pavement.