



NCDOT Pavement Preservation Bulletin

Fog Seal

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What is Fog Seal?

A diluted emulsion sprayed at a light rate on an asphalt surface that breaks quickly, increases chip retention in AST, and gives a road a darker appearance.

It is often used in conjunction with a chip seal, applied at a rate of 0.09 - 0.15 gal/sq yd.

Cost and Life Extension

Estimated Unit Cost:

\$0.30-0.60/square yard per 2021 let contracts

Pavement Life Extension:

2-4 years when applied as a Standalone Treatment on a road with a Pavement Condition Rating > 80

1-2 years when applied on a new Chip Seal

+/- of Fog Seals

Pros:

- Allows Chip Seals to be placed in subdivisions
- Gives roads a darker appearance
- Increases aggregate retention in Chip Seals
- Renews aged asphalt pavement

Cons:

- Additional cost if using with a Chip Seal
- Traveling public can't drive on road until Fog Seal breaks (takes less than 1 hour)
- Dark surface color fades in 1-2 years
- Will not remedy moderate to severe distresses



Pictured Above: Fog Seal less than 5 minutes after application



Pictured Above: Fog Seal after emulsion has broken.

Resources

Click on the icons or text below to view each resource.



PPRA Road Resource Profile: Fog Seal



FWHA Fog Seal Checklist



Current Special Provision: Fog Seal SPI 06-19*

*New Fog Seal Spec coming in Section 660 of 2024 Spec Book

Quarter 2, 2023

Fog Seal Emulsion Tips

Emulsion: In NC, CSS-1h, CRS-1h or CQS-1h.

Emulsion is diluted at a 1:1 ratio with water at the asphalt plant, NOT on the job site.

Apply when temperature is 60 degrees F and rising. Do not apply when foggy or rainy.

A Fog Seal is applied with a distributor, but with different nozzles than are used to apply a Chip Seal emulsion.



Pictured Above: Cleaning the Road and Fog Sealing

Per the Fog Seal SPI: "The pavement surface must be clean and dry before applying the fog seal."

Fog Seal Legislation

§ 136-44.3A.(f1). "Unless used in combination with a fog seal, the Department shall not use chip seal treatment on subdivision streets."

§ 136-44.17.(b1). Applications eligible for funding under the pavement preservation program include fog seals, amongst many others.



Pictured Above: Fog Seal Treatment

This road was Chip Sealed, Fog Sealed and Striped. The Fog Seal enhances the edge and center lines with color contrast.

Standalone Treatment

Fog Seals can be used on aged Chip Seal or HMA pavements to combat oxidation and to seal minor cracks and surface voids.

Pavements with PCR scores from 80+ could see a life extension of 2-4 years with a Fog Seal application.

Many State DOTs and municipalities have utilized Fog Seal on their paved shoulders to as a low cost preventative maintenance option.

WATCH: Delaware Fog Sealing Shoulder on Rt 1



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