

Fog Seal, Surface Seal and Scrub Seal Materials and Options

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Fog, Surface and Scrub Seals

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Welcome to AZAGC

Welcome to the Arizona Chapter of the Associated General Contractors of America (AZAGC) website. The purpose of this website is to serve as a tool and resource for AZAGC members, public policy decision makers, business leaders and the general public. Please take a moment to check us out.

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As a member firm, you have the benefit of AZAGC's 80 years of experience representing the interests of the construction industry.

Surface Seals



Definition

Surface Seals are applications of emulsion sprayed on existing pavements to coat and protect the surface. [It's] a generic term that may include: fog, flush, provisional and rejuvenating coats and seals.

Arizona AGC “**Surface Seal Guide for Application and Construction**”

Uses

Surface Seals can be used on **Chip Seals, Open graded pavements** and new or weathered **Hot Mix Asphalt**. They can be [used] to renew oxidized asphalt surfaces that have become dry and brittle.

Attributes

- **Surface Seals:**
 - Coat aggregate particles at the surface to improve chip retention
 - Prevent raveling
 - Seal small cracks and surface voids
 - Waterproof
 - Improve aesthetics



Pavement Selection

- Good Candidates
 - Oxidized Pavements
 - Cracked Pavements (less than $\frac{1}{4}$ inch)
 - New Chip Seals
- Bad Candidates
 - Pavements with rutting or structural damage
 - Pavements with drainage or crown issues
 - Smooth Pavements

Pavement Examples



Pavement Examples



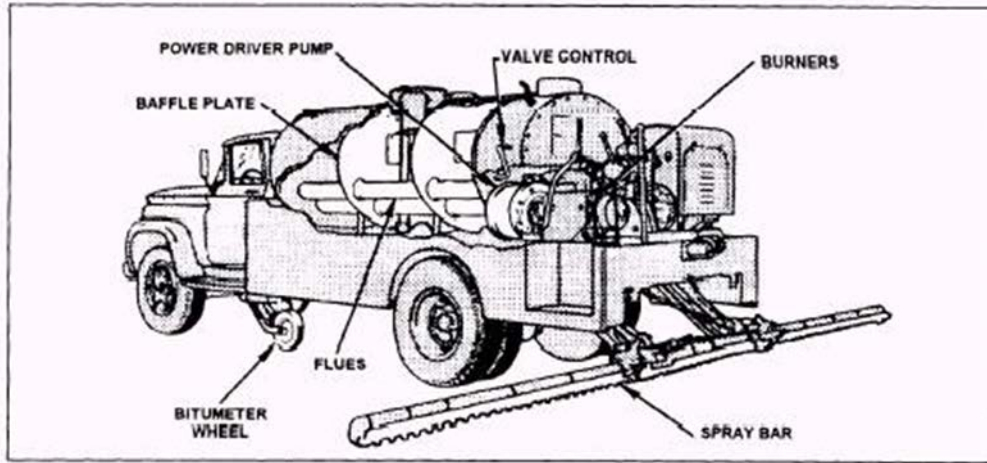
Materials

- Wide variety of available products and ingredients:
 - Fillers/Hardeners
 - Polymers
 - Rejuvenators
- Specifications
 - Proprietary vs. Generic
 - ADOT PMRE Generic Specification

Preparation

- Deficiencies in the pavement surface should be repaired.
- Cracks $\frac{1}{4}$ inch wide or wider should be filled (correctly).
- The surface should be cleaned of all foreign material with a mechanical sweeper, broom or by air blowing (timing is important).

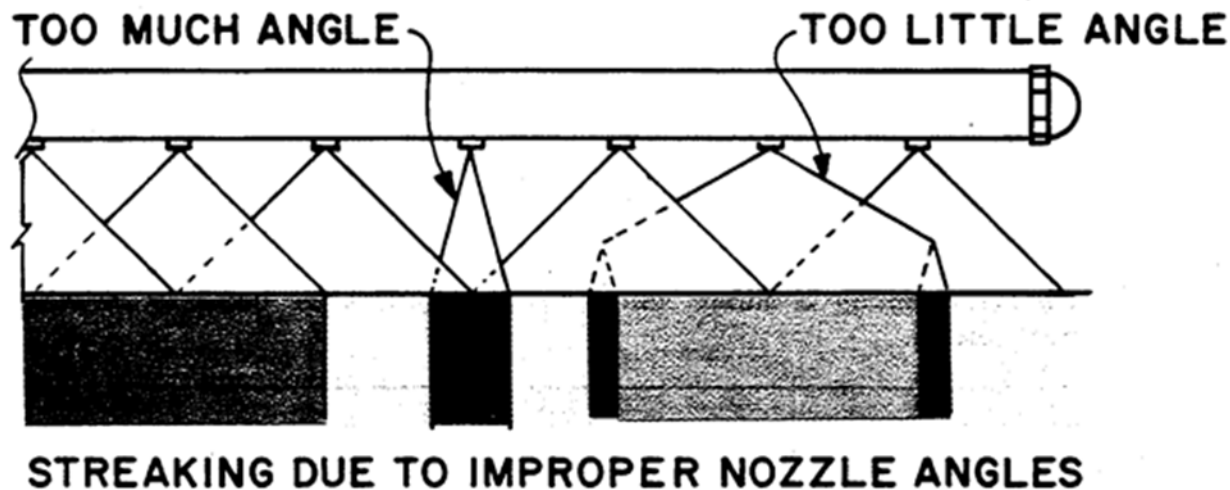
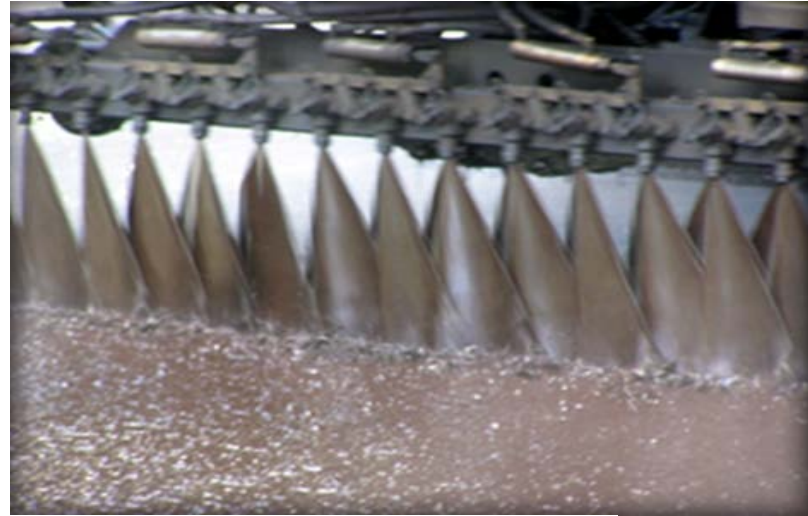
Equipment – Distributor Truck



- Ratable and Controllable Application Rate
- Verification of the amount applied
- Emulsion Storage Temperature (per manufacturer)

Equipment – Spray Bar

- Nozzle Size
- Spray Bar Height
- Nozzle Angle



Application

- Ambient Temperature (50°F and rising)
- Full Coverage
- Watch for rain and excessive wind
- Cure time is product and climate specific

Scrub Seals



Definition

Scrub seal applications use a scrub box to work an asphalt emulsion, or hot applied AC, into pores, cracks and surface irregularities on the pavement surface. After the material is applied, chip, sand or another pavement preservation application is applied to the surface.

Attributes

- Crack Protection (Bridges Cracks)
- Rejuvenation
- Intermediary layer or final surface treatment
- Different surface textures with sand and chip

Pavement Selection

- Good Candidates
 - Oxidized Pavements
 - Cracked Pavements (can be more severe than for surface seals)
 - Smooth Pavements
- Bad Candidates
 - Pavements with rutting or structural damage
 - Pavements with drainage or crown issues
 - Radius concerns with the brooms

Pavement Examples



Pavement Examples



Pavement Examples



Materials

- Wide variety of available products and ingredients:
 - Polymers
 - Rejuvenators
 - Rubber
 - Aggregate – Chip vs. Sand
- Specifications
 - Proprietary vs. Generic
 - ADOT PMRE Generic Specification

Preparation

- Deficiencies in the pavement surface should be repaired.
- The surface should be cleaned of all foreign material with a mechanical sweeper, broom or by air blowing (timing is important).

Equipment – Brooms/Strike Off

- Without a broom or strike off, the material does not penetrate the cracks and crevices as well.
- Brooms and squeegees should be adjustable to increase or decrease pressure on the surface.
- Relatively clean and in good working order (look for missing bristles).

Application

- Application rate may vary throughout the project
- Ambient Temperature (50°F and rising)
- Watch for rain and excessive wind
- Cure time is product and climate specific
- The amount of time to wait and add chip and/or sand is also product specific

Application Rate check



Hot Applied – Application Rate



Summary

- Surface Seals and Scrub Seals are effective pavement preservation techniques with a variety of options
- An experienced contractor and crew are critical to the success of a project
- These techniques work “best” to address surface issues with slight to moderate cracking

Contact Information

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