

DRIVEWAY/PARKING LOT SEALING

PROCESS DESIGN OVERVIEW

1 SCOPE

As part of pavement maintenance and preservation there are different processes which can help to maintain the network in a relatively high state of condition. Sealers can provide excellent adhesion, flexibility and durability. Sealers protect and renew old oxidized pavement and provides a new black surface to existing pavements which helps to melt snow and ice faster.

1.1 DEFINITIONS

Sealers:

Sealers are an asphalt based product which can be either a specially formulated cutback type or a water based asphalt emulsion. They are used to preserve an existing asphalt or concrete surface and provide protection against environmental conditions. They can be placed using special machines or by squeegee.

2 MATERIALS

2.1 Asphalt Emulsions:

The asphalt emulsion sealers are specially formulated to provide a hard black surface. The emulsions can be unfilled or filled with fillers and sand as well as being polymer modified to add extra durability, flexibility and fuel resistance.

2.2 Cutback Asphalt:

The cutback asphalt used as a sealer is a specially formulated sealer to preserve and protect existing asphalt pavements. The product (**Blackmac**) has unique properties that allow it to fill small voids and hairline cracks, prolonging the life of the pavement.

3 DESIGN CRITERIA

In designing a seal it is critical that the existing surface is clean. This ensures that a proper bond is made between the existing surface and the sealer. The porosity of the existing surface must be determined to ensure the proper application rate will be applied. In some instances if the surface is extremely tight (due to earlier application of a seal) it may be better not to apply a new seal as the new sealer will not penetrate the tight surface leading to "tracking". The application rates for **Blackmac** range from 0.4l/m² for a dense surface to 0.8l/m² for a very open porous surface.

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4 RECOMMENDED PERFORMANCE GUIDELINES

In order to construct a proper well designed seal the following guidelines should be followed:

- Ensure surface to be covered is totally clean of dirt and oil stains.
- Use a clean sand if using a filled product.
- Calibrate and inspect all equipment.
- Follow proper construction techniques as detailed by the manufacturer.
- Prevent traffic from getting on the surface until fully cured, (typically 24 hr).
- Work only in weather suitable for type and grade of sealer being used.

5 RESOURCES

1. "Basic Asphalt Emulsion Manual", Fourth Edition, Asphalt Institute and Asphalt Emulsion Manufacturers Association, 2008
2. "Recommended Performance Guidelines", Second Edition, Asphalt Emulsion Manufacturers Association, Annapolis Maryland, 2006
3. "The Asphalt Handbook", 7th Edition, Asphalt Institute, Lexington, Kentucky, 2007
4. "Asphalt in Pavement Maintenance" MS-16, 3rd Edition, Asphalt Institute, Lexington, Kentucky, 1997



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