BOND/TACK COATS & PRIMERS:
BOND/TACK COATS
PRIME COAT/GRANULAR SEALING
CONVENTIONAL BOND COAT EMULSIONS

In order to improve the bond between layers of pavement a bond coat should be applied. A bond coat is very inexpensive insurance to make sure there is structural integrity between the pavement layers. There are many different types of emulsions used in bond coating.

A bond coat is a spray application of asphalt emulsion. It is applied to an existing asphalt or portland cement concrete surface prior to a new asphalt overlay or patching. This eliminates slippage planes and provides a better bond between new and existing pavement layers.

The asphalt emulsions used for bond coats can be either anionic or cationic. Typically SS-1, SS-1H, CSS-1 or CSS-1H are used as bond-coat emulsions. Normally these emulsions are diluted with water (1:1) prior to applying to reduce viscosity for spraying, to fill small cracks and voids, and to more accurately apply very small quantities of residual asphalt.

CLEAN BOND COAT EMULSIONS

Clean bond coats serve the same function as a regular bond coat application, only they have an added benefit of a non-tacky residual binder being left on the surface. This prevents tracking by construction vehicles and the general public. It keeps a sufficient amount of bond coat on the base, allowing for proper bonding and shear strength to be achieved with an overlay. This is an excellent choice for busy urban areas to eliminate unsightly tracking of asphalt.

POLYMER-MODIFIED BOND COAT EMULSIONS

Applied using conventional methods, polymer-modified bond coats are specifically designed to withstand high stress and shear applications that demand high performance. Multiple uses include: airport pavements, high-traffic roadways, racetracks, concrete pavement overlays and bridge decks.

PRIME COAT EMULSIONS

A prime coat is a single application of either a specially formulated asphalt emulsion or a low-viscosity asphalt cutback. Their primary functions are to penetrate quickly into the granular surface and bind the material together, to partially waterproof the granular surface to prevent water erosion, to provide a temporary riding surface prior to overlay or seal coating and to provide a bond between the existing surface and the new wearing surface.

The asphalt emulsions used as prime coats typically contain a combination of asphalt and specially engineered agents to aid in penetrating the granular surface, while binding the aggregate particles to achieve stabilization.

FEATURES AND BENEFITS

• Prevents de-bonding of the HMA layers.
• Prevents mat slippage and reduces top-down cracking.
• Enables superimposed lifts to act as a monolithic layer, thus increasing the overall structural capacity of the roadway.
• Aids in the increasing of mat density during rolling operations due to decreased slippage/forward movement of the HMA being rolled.
• Increased pavement life and decreased life cycle cost.
• Small cost versus the benefit.

THE MCA ADVANTAGE

With the MCA Advantage, you get a partner and advisor who will consult with you about designs, specifications, technical services, processes and material selection. By developing innovative, custom-designed products that offer additional benefits, such as peak performance in unique conditions, improved field performance, greater environmental and health benefits, the MCA Advantage provides significant long-term cost savings, resulting in lower “total cost of ownership.”

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