

Sinusoidal Rumbles and Chip Seal Preventative Maintenance

Chip seal preventative maintenance, when applied at the right times on an existing bituminous pavement, has been proven to extend the life of the pavement. Sinusoidal rumble strips and stripes, when applied in the correct areas, have been proven to be an effective safety strategy. As chip seal preventative maintenance and sinusoidal rumbles have both become standard practice, figuring out the best way to allow both to coincide is extremely important. Recently, it has come to the attention of MnDOT that when a chip seal is applied over a sinusoidal rumble, it negates the required auditory and tactile warning this safety feature is meant to provide. Understanding that both preventative maintenance and safety features are valuable to the State and its residents, the MnDOT Office of Traffic Engineering in conjunction with the MnDOT Office of Materials & Road Research recommend the following practices:

- Install sinusoidal rumbles on bituminous roadways only when a noise concern is present. The corrugated rectangular rumble should be used when there is no noise concern.
- When chip seal preventative maintenance is to be applied on a road with sinusoidal rumbles present, do not place the chip seal over the sinusoidal rumble. If preventative maintenance is needed over the sinusoidal rumble, only apply fog seal emulsion. Make sure the correct application rate is applied on sinusoidal rumbles to avoid pooling and also be sure to allow the proper curing time to avoid pavement marking failures.
- Fog sealing may occur right after sinusoidal rumble is installed and therefore not applied when chip seal is applied, this will allow permanent pavement markings to last through their entire service life. When doing this, make sure the fog seal emulsion is given enough time to properly cure to avoid pavement marking failures.

Implementing the above into common practice will be key to providing a long lasting pavement that will provide improved safety for the traveling public. MnDOT is committed to continuing research to provide the best solution for this issue. As time moves forward and preventive maintenance treatments evolve through practice and research, these practices may change. If there are any questions or concerns, please contact one of the following:

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