



## Chip Seal Best Practices

Chip seal is an application of asphalt emulsion to the pavement surface, followed immediately by a layer of course aggregate. It is one of the most cost-effective and versatile preventive maintenance treatments. While chip seal has both preventive and restorative uses, it is important to remember chip seal does not add structure to the road.

### Pre-Application Surface Preparation Checklist:

- Review the existing road surface for possible overspray by working irrigation systems during construction. Inspect the pavement for existing damage issues from stormwater.
- All pavement distress has been repaired.
- Grass or weeds have been removed or destroyed by chemical herbicide. If herbicide was used, approximately one to two weeks has been given to kill the vegetation before applying the chip seal.
- Cracks wider than ¼ inch have been filled or sealed. Crack seal should be completed at least 7 days prior to application of chip seal.
- Asphalt patches placed within six months have been fog sealed prior to chip sealing. The fog seal must be completely cured prior to construction of chip seal.
- The surface has been swept clean and is dry and free from debris.
- Raised pavement markers and thermoplastic markings have been removed.
- Temporary pavement markers have been placed on lane lines for delineation after chip sealing
- Utility castings have been protected with kraft paper, roofing felt or other approved products to prevent coating the casting with asphalt. A temporary road marker has been placed on the cover to locate the casting after chip sealing.

### Climate Considerations Checklist:

- Follow the range of dates established by the agency for when chip seal can be performed. No chip sealing in October in Michigan. The new surface needs cure time before the arrival of winter weather and temperatures.
- Air and surface temperatures have been checked at the coolest location on the project. No low temperature below 40 degrees is expected in the next 24 hours.
- Air and pavement surface temperatures, humidity and wind will affect how long the emulsion takes to break.
- Construct chip seal only during daylight hours, with traditional binders.

**Application Rates Checklist:**

- Application rates will vary between .39 and .44 gallons per square yard on single chip seal and first course, and .28 and .32 on top course of double chip seals.
- The condition of the original asphalt will determine the application rate. Application rates are generally increased on heavily oxidized and porous surfaces and decreased on non-porous and asphalt-rich surfaces.
- Asphalt application rates are generally increased on roads with low traffic volumes and decreased on roads with high traffic volumes.
- Aggregates should be applied at a sufficient rate so that equipment tires do not pick up asphalt as the aggregate is placed.

