

Troubleshooting Guide

This guide provides information to assist maintenance personnel with troubleshooting problems during patching and edge repair projects.

Note that some specifications described in the following content may not be the same as the specifications followed by your agency. Always check with your State agency's standards and specifications when using these guidelines.

Sections

- **Approaches for Surface Reinstatement**
- **Common Patching Problems and Related Solutions**

Approaches for Surface Reinstatement

Method A: Hot Mix Asphalt (HMA) Application

- The area to be patched is cleaned of debris.
- A diluted tack coat emulsion is applied at a rate of approximately 0.1 g/yd².
- The HMA is laid over the surface and spread. The HMA should be spread to a minimum of twice the thickness of the largest aggregate size.
- The HMA is then compacted using a pneumatic tired roller and possibly a steel wheel finish roller. A vibratory roller is not recommended because of the possibility of crushing aggregate in thin lifts.

Method B: Emulsion Seal Coat

- The area to be patched is cleaned of debris.
- A tack coat emulsion is applied at a rate of approximately 0.2 g/yd².
- A layer of sand or fine aggregate, typically 0.1 to 0.2 in. in depth, is applied.
- The patched area is then rolled with a pneumatic tired roller.

❑ Method C: Cold Mix

- The area to be patched is cleaned of debris.
- A light tack coat of diluted emulsion is applied at a rate of approximately 0.1 g/yd².
- Spread mix over area to be repaired to a depth of 1 in.
- Compact mix using a pneumatic tire roller (or haul trucks) and finish with a steel wheel roller.
- Follow up before winter with a fog seal.

Common Patching Problems and Related Solutions

Problem	Solution
Patching Material Picks Out	<ul style="list-style-type: none"> • Ensure the hole is cleaned properly and not too wet. • Ensure sufficient tack coat is applied. • Use a self-setting cold-mix when holes cannot be dried properly. • Ensure the patch is solid before trafficking. • Dust patch surface with sand or small aggregate. • Wait for better weather. • Do not use cutback-based cold-mix (unless a temporary repair is being done). • For HMA patches, allow to cool before traffic is allowed over the patch. • Ensure required compaction is achieved.
Flushing	<ul style="list-style-type: none"> • Reduce asphalt or emulsion content in the mix. • Reduce tack coat application. • Allow longer time before trafficking. • Ensure the gradation of the aggregate is appropriate.

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<p>Uneven Surface</p>	<ul style="list-style-type: none"> • Ensure cold-mix is workable. • Ensure HMA is at the right temperature for placement and compaction. • Ensure adequate compaction is achieved.
<p>Loss of Cover Rock in Seal Coat Patches</p>	<ul style="list-style-type: none"> • Ensure surface is clean. • Ensure correct emulsion content is sprayed. • Ensure aggregate is spread while the emulsion is still brown. • Ensure emulsion is broken before traffic is allowed. • Allow longer cure time before traffic.
<p>Traffic Compacts Mix to Below Edge of Hole</p>	<ul style="list-style-type: none"> • Ensure finished hole is overfilled 0.1 to 0.2 in. • Ensure adequate compaction is achieved. • Ensure mix is workable at application temperatures. • Allow longer time before trafficking.