Back to the Basics for Pavement Preservation

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- Offered to small communities and counties to share information about pavement preservation with the operators and laborers

- The on-site classes start in the classroom with a review of pavement preservation methods and best practices, then continue into the field with road/street assessments and repair plan developments.
- Sessions are tailored to individual city needs

- Some classes will include performing field repairs and testing new equipment.

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Crack Sealing

Not Good Candidates

Products to Use

Hot pours

MC300

PG58-28

CRS2P

Cold Pours

Rubber Sealants

Gap/Mastics

Over Bans

- Should not be wider than 1 ¼ to 1 ½ inches wide per side
- Cracks should be wider than 1/8th wide
- Make sure cracks are clean and dry
- Rout and seal
- Rout a reservoir ¾ to ¾
- Clean before sealing
- Use a heat lance
- Use mastic on cracks wider than 1 ½ wide or depressed cracks

Why Crack Seal

- COST EFFECTIVE!
  - The cheapest thing you can do to preserve your asphalt
- Keeps water out of the sub-base
- Helps with ride

Good Candidates

Patching the Never Ending Job?

Don’t – Pothole Repair

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Don’t – Pothole Repair

Permanent Patching

- Clean Area
- Tack all sides and bottom
- Place HMA in lifts not greater than 2”

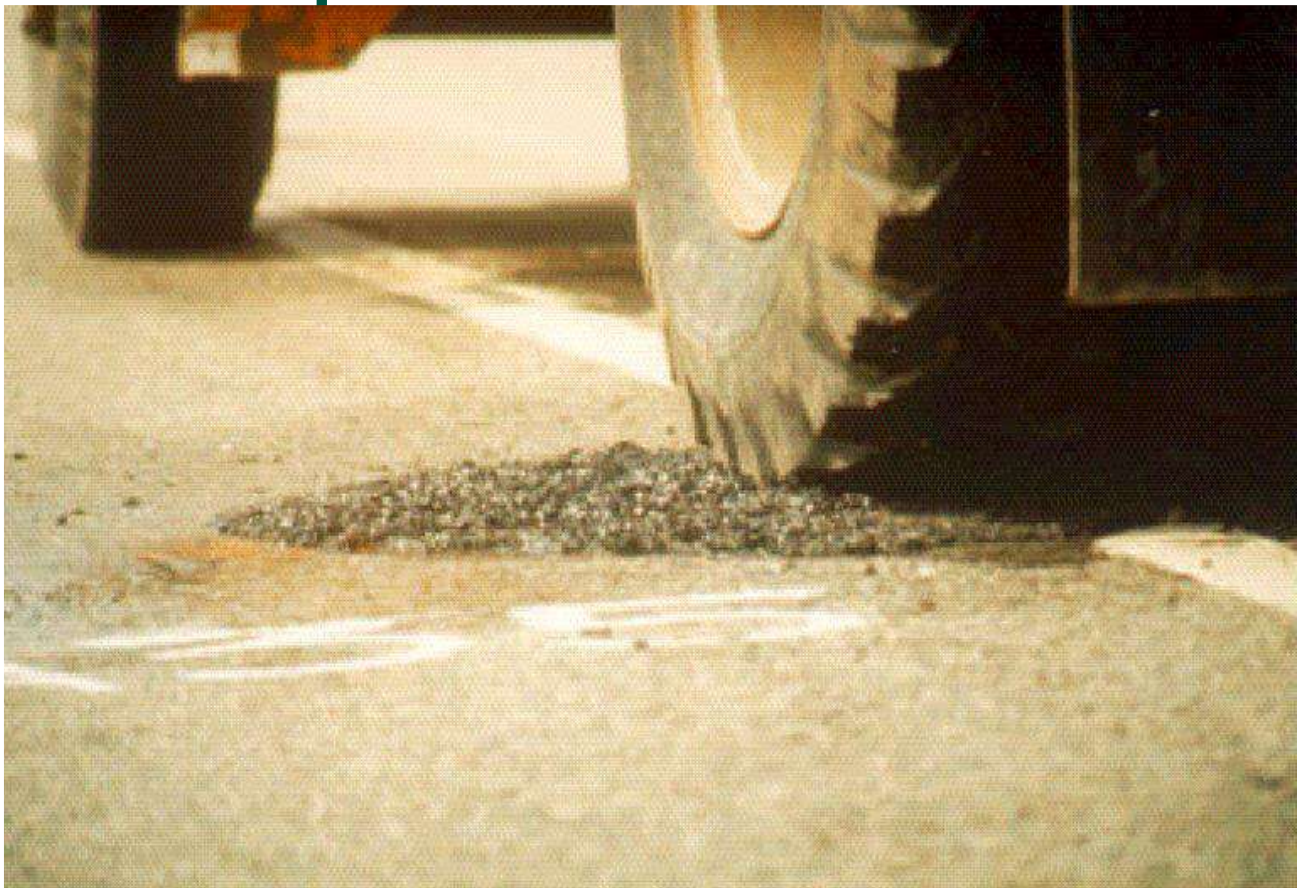
- Level Mixture
- Compact each lift
- Check final height
- Fog seal patches

Permanent Patching

- Mark out areas to be patched
- Make sure you get into sound pavement

- Remove damaged pavement
  - Milling
  - Sawing edges
  - Jack hammer

Do - Compaction



Do - Compaction

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Do - Compaction

Materials for Patching

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- Available year around
- No heat needed
- Should have anti strip additive
- Needs to be compacted
- Many types and qualities
- Sometime the most expensive is the cheapest

Materials for Patching – Hot Mix

What is wrong with this picture?

- Lower Air Voids
- Easier to handle
- More stable if properly
- Compacted
- Longer lasting?

Materials for Patching – Bag Mix

Equipment for Asphalt Repair

Spray Injection Patching

- Cleans, tacks, fills and compacts with a one-person operation
- Was designed to replace cold patch for emergency adverse weather patching
- (Has shown to be effective for longer term “semi-permanent” patches)
- **“when spray injection systems are used for these repairs, patch life increases up to 21 months.”**

  - ***Process Evaluation of Spray Injection Method for Asphalt Surface Repair Study SD97-06Final Report***

Spray Injection Patching

Infrared Asphalt Patching

- Surface distress repair - repairs the top 1” to 1-1/2”
- Soften existing asphalt area with infrared heat, rake in new material as needed, and compact
- Eliminates cutting out and hauling away deteriorated material
- Eliminates tack coating
- Result is a seamless repair?

Infrared Asphalt Patching

Pothole Repairs - Mastics

RoadSaver Patch


Ingersoll-Rand
Ingersoll-Rand
CR-24


8701
POTHOLE
PATROL


SOFT HEAT

Summary

Prepare the pothole to be patched
Apply proper tack application
Place patching material in patch
Compact in lifts if possible
Smooth surface taking care not to leave patch high • Slightly low final patches ride better than bump ups do
Density is important to life of patch
Use quality materials
Fog seal final patch

www.ndltap.org>resources>asphalt

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Asphalt

Chip-sealing is an effective road preservation technique that has been traditionally used on only low-volume roadways. MnDOT Research Project Supervisor Tom Wood explains why it can also be used for high-volume, high-speed roadways too.

- Pavement Preservation Series
  - Webinar Part 1
    - Paving Potpourri *(PDF, 2051K)*
    - When to Apply a Chip Seal *(PDF, 3453K)*
    - Patching the Never Ending Job? *(PDF, 2210K)*
  - Webinar Part 2
    - Part 2 Presentation *(PDF, 36.4 MB)*
- FHWA Pavement Preservation Checklist Series
- Hot In-Place Re)cycling Short Course *(PDF, 8434K)*
  - Info Sheet *(PDF, 562K)*
  - Hot In-Place Recycling Drone Footage *(MP4, 136 MB)*
  - Hot In-Place Recycling I-44 Will Rogers Turnpike *(WMV, 258 MB)*
- Chip Seal Design-Construction-Inspection *(PDF, 1365K)*
- Chip Sealing on High-Volume Roadways, MnROAD
- Asphalt Crack Sealing Operations, FHWA *(PDF, 704K)*
- Alternatives to Seal Coats, Local Road Research Board *(PDF, 274K)*
- Implementation of Intelligent Compaction Technologies for Road Constructions in Wyoming
- Analysis of Full-Depth Reclamation Trial Sections in Virginia *(PDF, 670K)*
- Local Road Surface Selection Tool
- Patching Materials Calculations *(Excel, 38K)*
- Distress Identification Guide *(PDF, 2994K)*
- Testing Recycled Asphalt Pavement (RAP) in Seal Coats *(PDF, 626K)*
- Asphalt Maintenance: Crack Sealing to Surface Treatments *(PDF, 3336K)*
- Guide to Converting Distressed Low-Volume Roads to Unpaved Roads
- Cooling Asphalt Burns

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Be Safe – Safety First

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If you can’t afford to maintain your asphalt
then maybe not pave it