Reflective Cracking

Reduce it
Stop a major % of the cracks

Retard it
Delay the reflection through a surface treatment.

Control it
Install a seal so that the cracks that reflect, don’t deteriorate the pavement.

Presented By: Job Davis
What can’t be done?

Eliminate It forever!

There are options to manage reflective cracking and diminish the adverse effects of reflective cracking.
What can be done to reduce or retard cracks?

Composite Membranes
A composite membrane works in several ways to retard cracking.

**With nothing cracks reflect quickly**

**High Strength Fabric Membranes**

- **WATER BARRIER**
- **Thermal Movement**
These products are easy to apply.

PavePrep – Membrane with Reinforcing Fabric
Once in place it can be opened to traffic prior to paving.
You need to have realistic expectations.

- These products will effectively retard both the amount and the severity of reflective cracking in an overlay.

- Nothing is a 100% cure. They don’t work well in areas of vertical deflection.
What can be done to reduce or delay cracks?

Pavement Joint Adhesive
Stop Paving Joint Failures

This is the single most annoying issue in the asphalt pavement industry.

- Accelerating deterioration
- Requires maintenance
- Shortened pavement life
Stop Paving Joint Failures

This is the single most annoying issue in the asphalt pavement industry.

Joint Adhesive

Application of specialized materials to the cold joint surface

- Seals and protects the low density area
- Adheres and provides flexibility to the joint
Stop Paving Joint Failures

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Stop Paving Joint Failures

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Performance Studies
National Center for Asphalt Technology
NCAT, Longitudinal Joint Construction Techniques
For AC Pavements

- Length of Study
  1992 to 2001

- Test Deck Locations:
  Michigan, Wisconsin, New Jersey, Colorado, Pennsylvania
Stop Paving Joint Failures

This is the single most annoying issue in the asphalt pavement industry.

Studied 9 techniques to prevent failures at the paving joint.

- 12/1 wedge (POOREST PERFORMANCE)
- Hot side rolling
- 3/1 wedge
- Cold side rolling
- Cutting wheel (# 2 PERFORMANCE)
- Edge resistant
- Infrared heater
- Joint maker
- Joint adhesive (BEST PERFORMANCE)
Stop Paving Joint Failures

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Stop Paving Joint Failures

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Joint Adhesive Acceptance:

- New York Thruway
- Maine DOT
- MASSDOT
- Minnesota DOT
- Indiana DOT
- Washington DOT
- Oregon DOT
- Kentucky DOT
- New Hampshire DOT
- AND MORE
What can be done to reduce or retard cracks?

Mastic Repairs
What are Mastics?

Mastics are a hot applied, flowable, aggregate filled flexible material, applied as a void-less mass to fractures, voids or other distresses for preventative maintenance and repair to increase safety, slow continued deterioration and restore the pavement ride condition.

### Features

- **Flexible**
- **Void less**
- **Requires no compaction**
- **Highly Adheres to AC and PCC pavement**
- **Feathered Edge**
- **Ready for traffic as soon as it has cooled**
- **Small Crew for Install**
- **Limited Equipment Needs**
- **Load Bearing**
Is Sealant the right choice or should you use a mastic?

Installation is Simple and Quick.
Is Sealant the right choice or should you use a mastic?

When the defect requires leveling or is larger than a sealant alone should be used to repair, mastics are a good choice for your preservation tool box.
Is Sealant the right choice or should you use a mastic?

Sealant won’t take the bump out of a bridge approach. Hot Mix Skin patch won't last. Mastic repairs work great.
Is Sealant the right choice or should you use a mastic?

Shoulder Repair

- Small Crew
- One Truck
- No Roller
- Levels & Seals
- Open to traffic in minutes.
Is Sealant the right choice or should you use a mastic?

We have all driven on the road that went thump, thump, thump for miles.

Mastic can take the thump out.

- Blow the crack clean
- Screed the Mastic
- DONE in minutes.
Is Sealant the right choice or should you use a mastic?

Mastic will seal and bridge the depressions that are wider than the crack.
Is Sealant the right choice or should you use a mastic?

CONCRETE PAVEMENT TOO!
Is Sealant the right choice or should you use a mastic?

In Preparation for a Micro, Slurry or Thin Overlay you must treat the cracks or they will reflect through quickly.
Is Sealant the right Choice or should you use Mastic?

Mastic prior to Nova Chip.
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