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# **Discussion**

**Crack Sealing**

**Mastic's**

# Crack Sealing Provides Immediate Savings

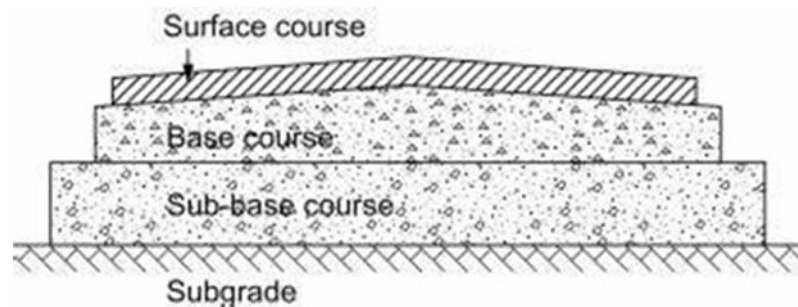


- Without crack sealing, 75% of cracks form into potholes in <3 years<sup>1</sup>
- With crack sealing, 1% of sealed cracks develop into potholes in <3 years<sup>1</sup>
- **Less potholes results in less pothole patching and related expenditures**

<sup>1</sup>Belangie, Michael C. and Anderson, Douglas I.. May 1985. Crack Sealing Methods and Materials For Flexible Pavements. Utah Department of Transportation. Salt Lake City, UT. Report FHWA/UT-85/1.

# Why Treat Cracks?

Prevent water from entering and weakening the base, sub-base, and subgrade courses



# Crack Sealing Benefits

**Prevents**

**water intrusion &  
incompressible intrusion**

**Slows**

**pavement deterioration**



# Wisconsin LTAP

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Crack sealing: smart investment in tight times-**Wisconsin  
Transportation Information Center-LTAP**



# When to Crack Seal

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Cracks develop in 2-5 years.

Treatments should be considered when cracks become visible.

At minimum, all cracks 1/8" wide should be considered for treatment.

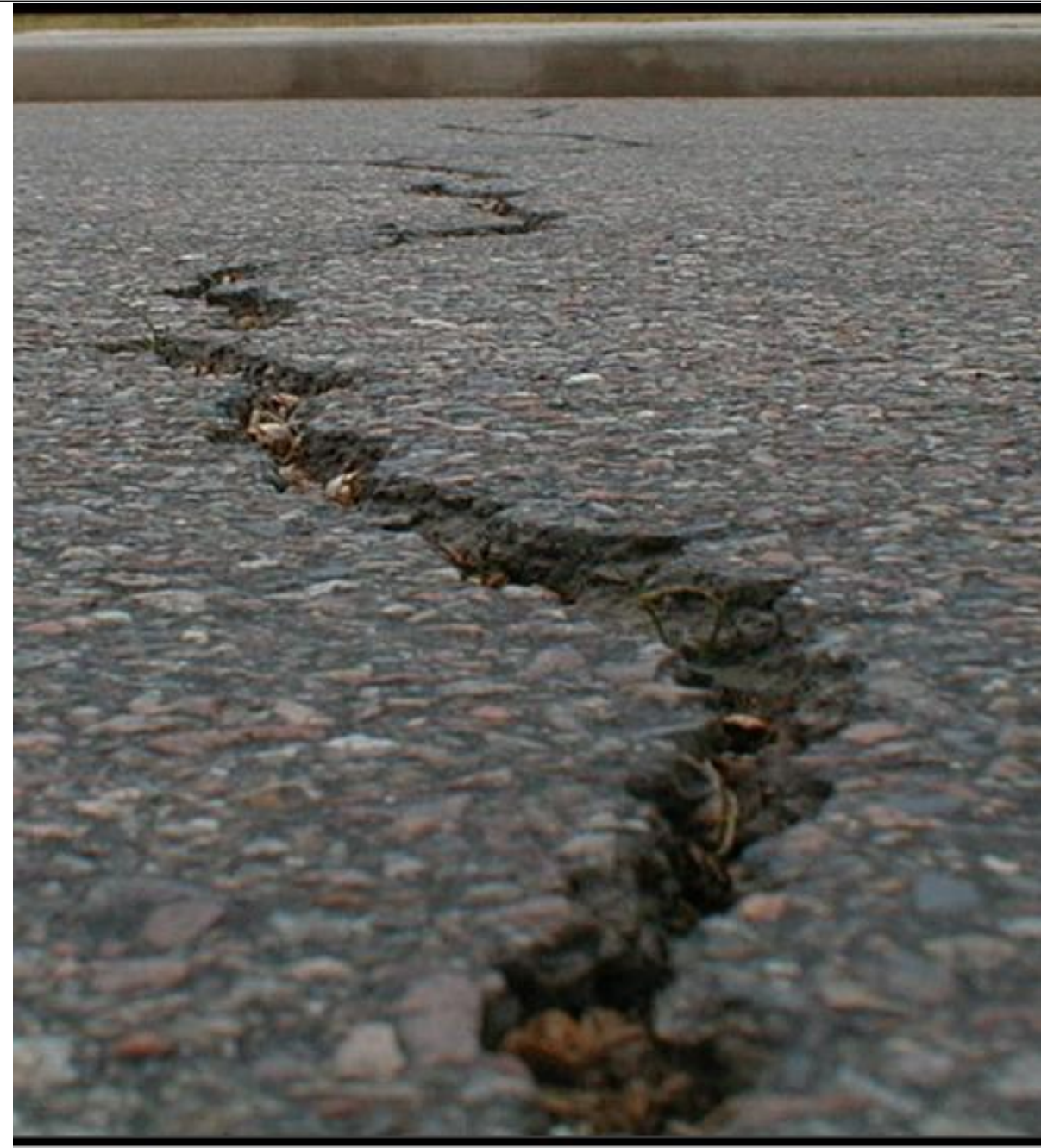
Remember.....cracks <<grow>> in the winter.



# Crack Formation

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- **Cracks occur when the AC is no longer flexible enough to resist weather/traffic**
  - *Traffic loadings*
  - *Seasonal temperature changes*
- **Asphalt concrete is most flexible and resistant to cracking at construction**



# Seasonal Factors

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- Spring/Fall typically optimal
- Dry conditions
- Cracks are moderately open



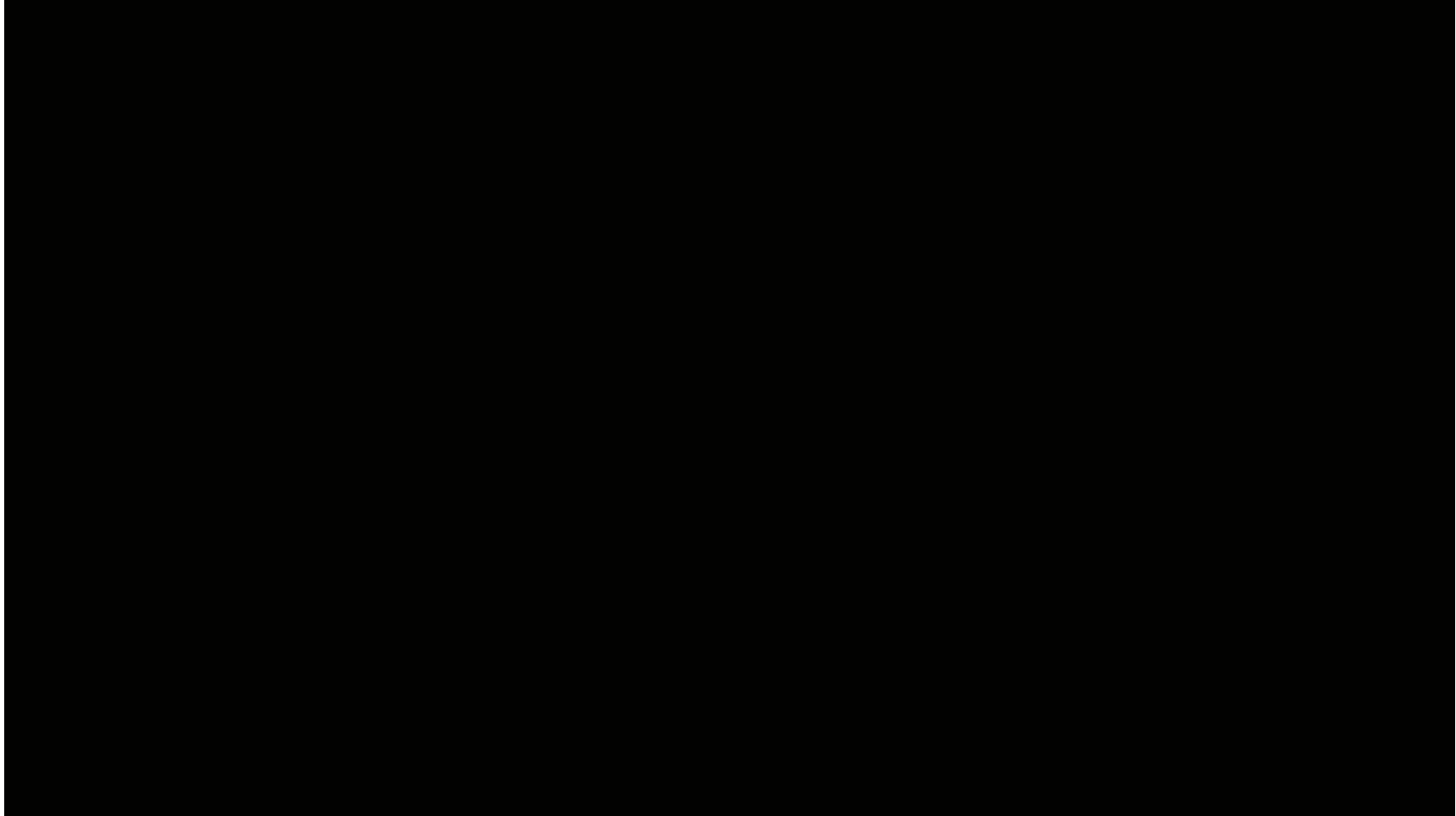
# Seasonal Factors

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## ▪ Winter Crack Sealing

- Winter is a good alternate
- Performed in virtually any outside air temperature
- Need dry crack warmed to 40°F
- Hot Air Lance
- Extend your preservation season! Crack seal when no other treatments can be performed





# Pretreatment for Surface Treatments

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- Crack Treatments are commonly used as a pre-treatment in conjunction with surface treatments
- Sealing prior to surface treatments enhances the treatment and further extends the pavement life. 9

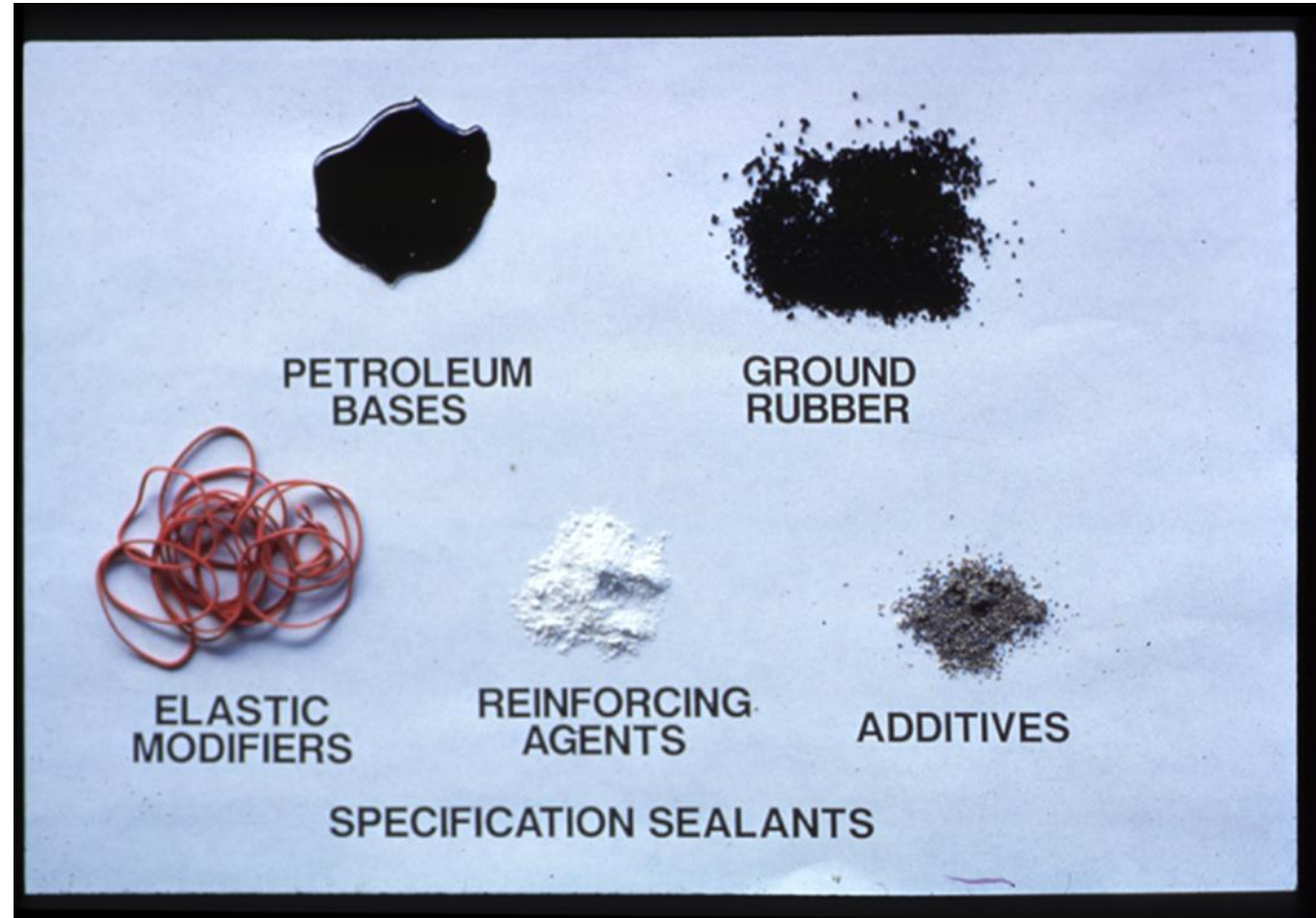


# Crack Sealant

Crude Oil Distillation Process

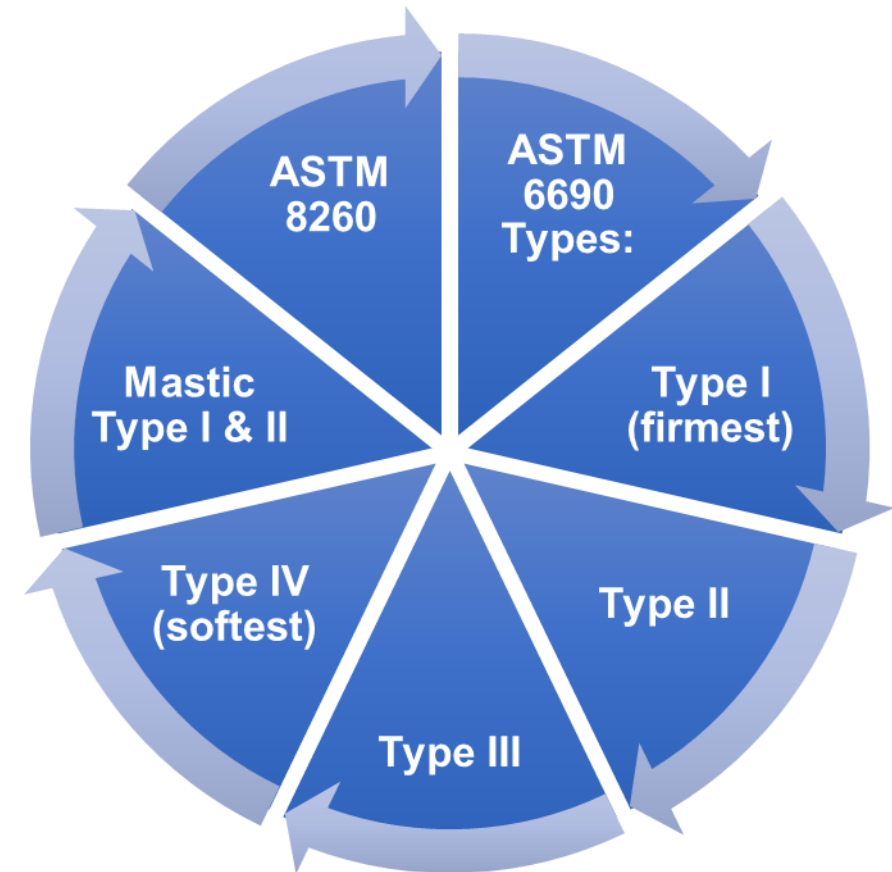


# Crack Sealant



# Specifications

- Crafcoc Specifications
- ASTM Specifications
- IDOT & WisDOT
- Fiber sealant
- Parking lot
- FAA



# Process

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- **Select Candidate's**
- **Schedule Time**
- **Rout**
- **Clean**
- **Seal**



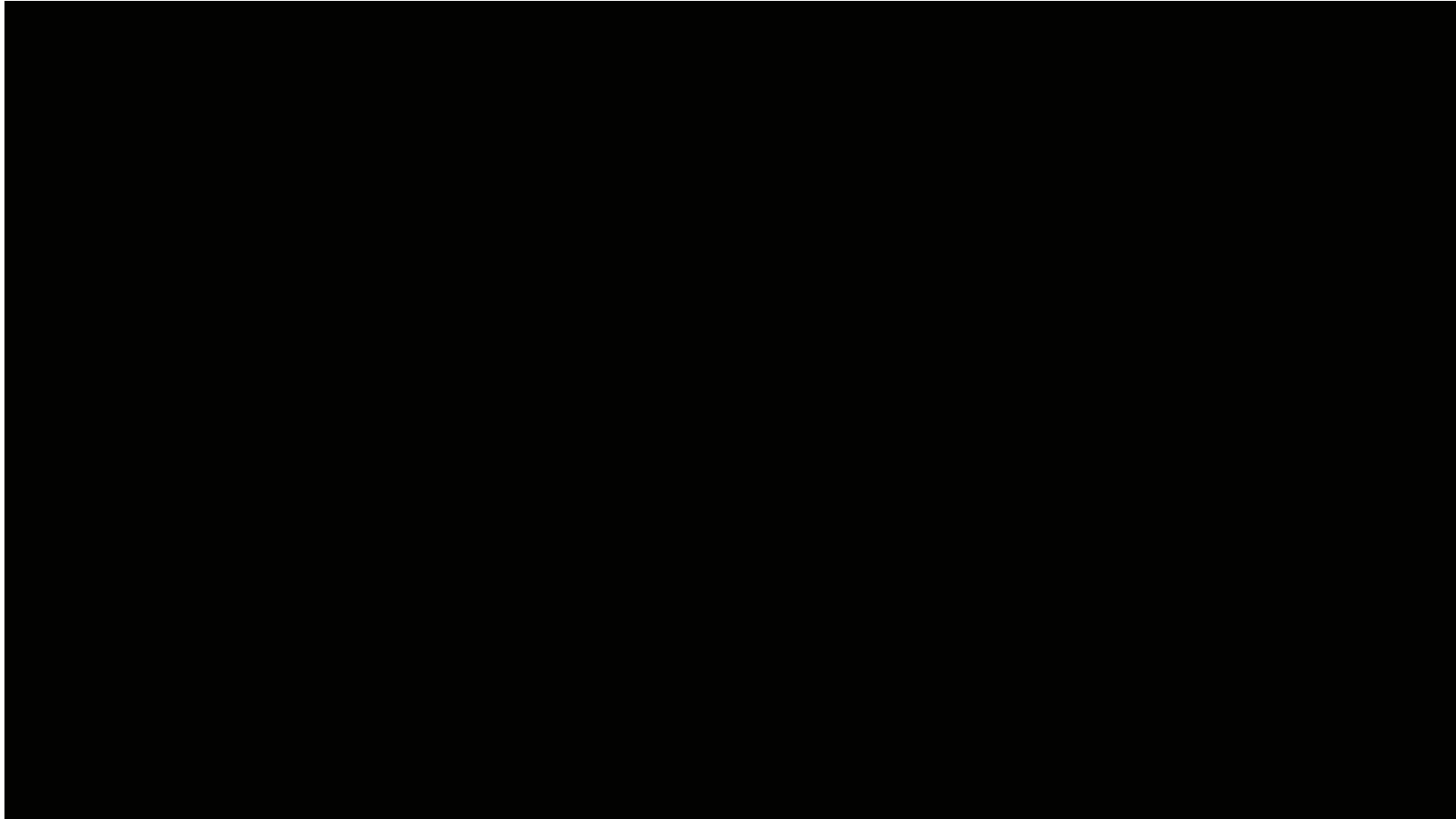
# Routing





**Routing creates a reservoir. It improves **adhesion** and the sealant's ability to accommodate crack movement. It doubles the sealant service life**





# Mastic's



- **Do More with Less**



## **Conventional Repair Inefficiencies**

# What is Mastic Sealant ?



# Mastic

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Mastic is a hot-applied **ELEVATED** repair material made of either polymer-resin or polymer modified asphalt cement binder and engineered aggregate



# Unique Feature's

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# Aggregate Filled

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**Load Bearing &  
Structural**

## Strong Bond

- Highly adhesive to both asphalt and concrete



# Flexible

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- Moves with the expansion and contraction of the pavement



# Flowable

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# Rapid Set & Waterproof

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## No Compaction

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- **No Compaction needed. Requires less crew and equipment compared to asphalt applications.**



# Bulkable





# Leveling Manhole Covers



# Spalled Concrete Joints



# Pot Hole Repair





# Pavement Separation



# Cupped Cracking



# Bridge Deck Approaches

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- Mastics are used to taper bridge entry points for safety and making the ride smoother



# **Thank You !**

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