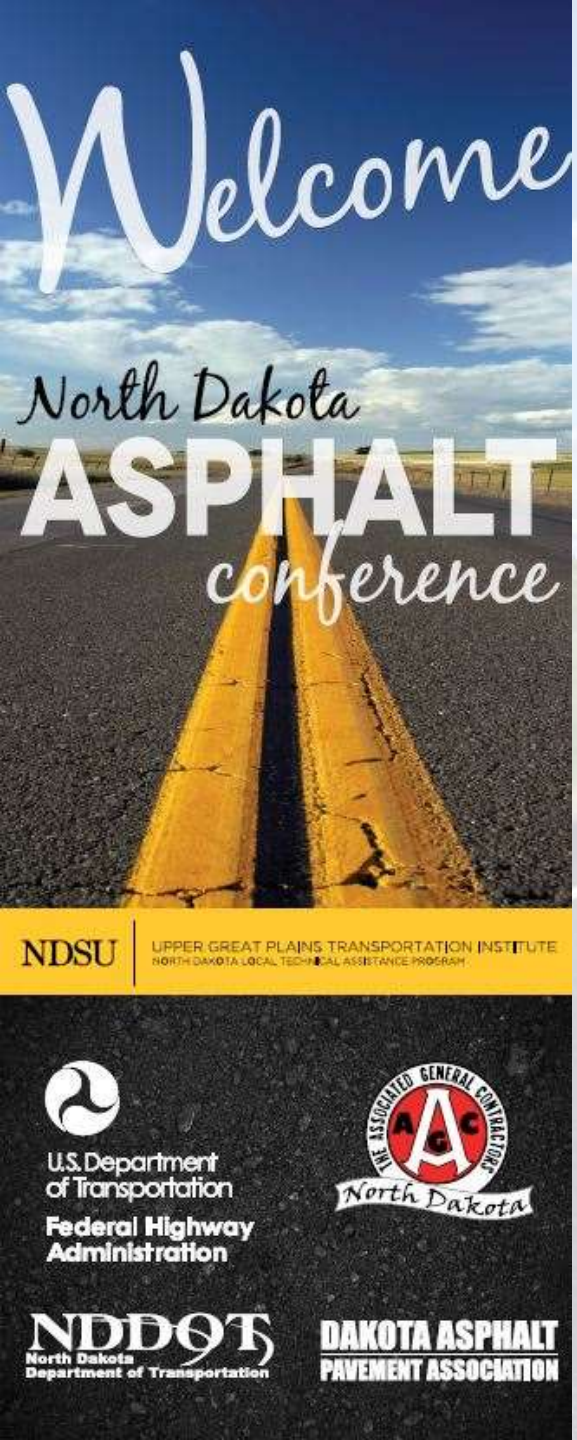

Priority One – Crack Sealing

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Why you need to crack seal!

Incompressible Intrusion

“Working” vs. “Non-working” cracks

- Working
  - 3> mm
  - Thermal
- Non-working
  - <3 mm
  - Longitudinal
  - Fatigue
  - Block

Two different treatments

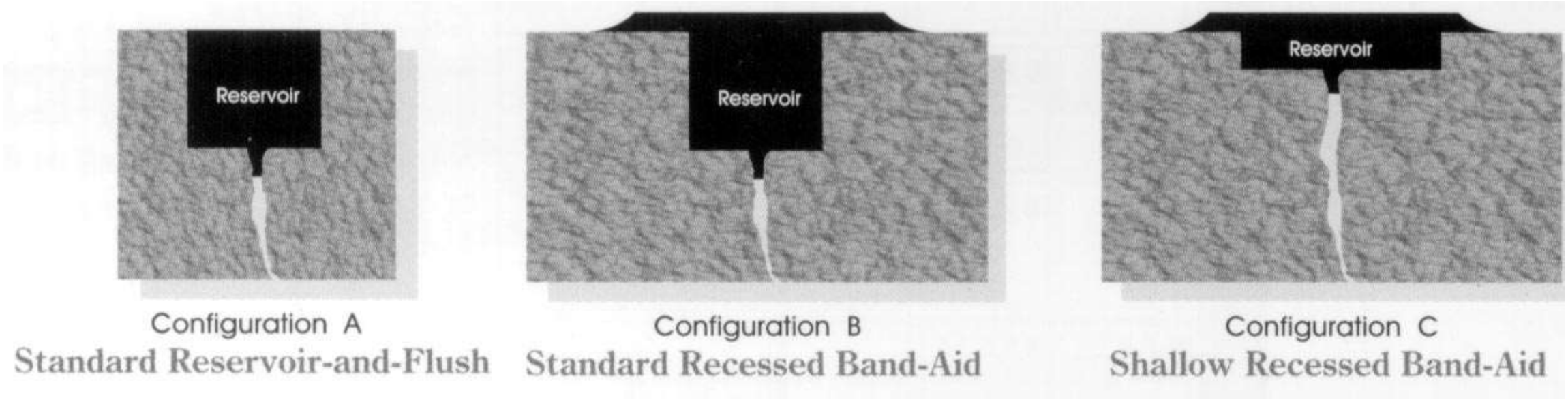
- Crack sealing
  - Rout and Seal
  - Goal sealed year round
- Crack filling
  - Blow & Go, Clean & Seal
  - Cracks will open in winter
  - Reseal in warm weather

Crack Sealing

- In thermal cracks
- Routed reservoirs
- Pavements in good condition
  - > 20’ transverse crack spacing, minor severity of other cracking
- Sealants that are flexible and extensible at lowest temperature encountered

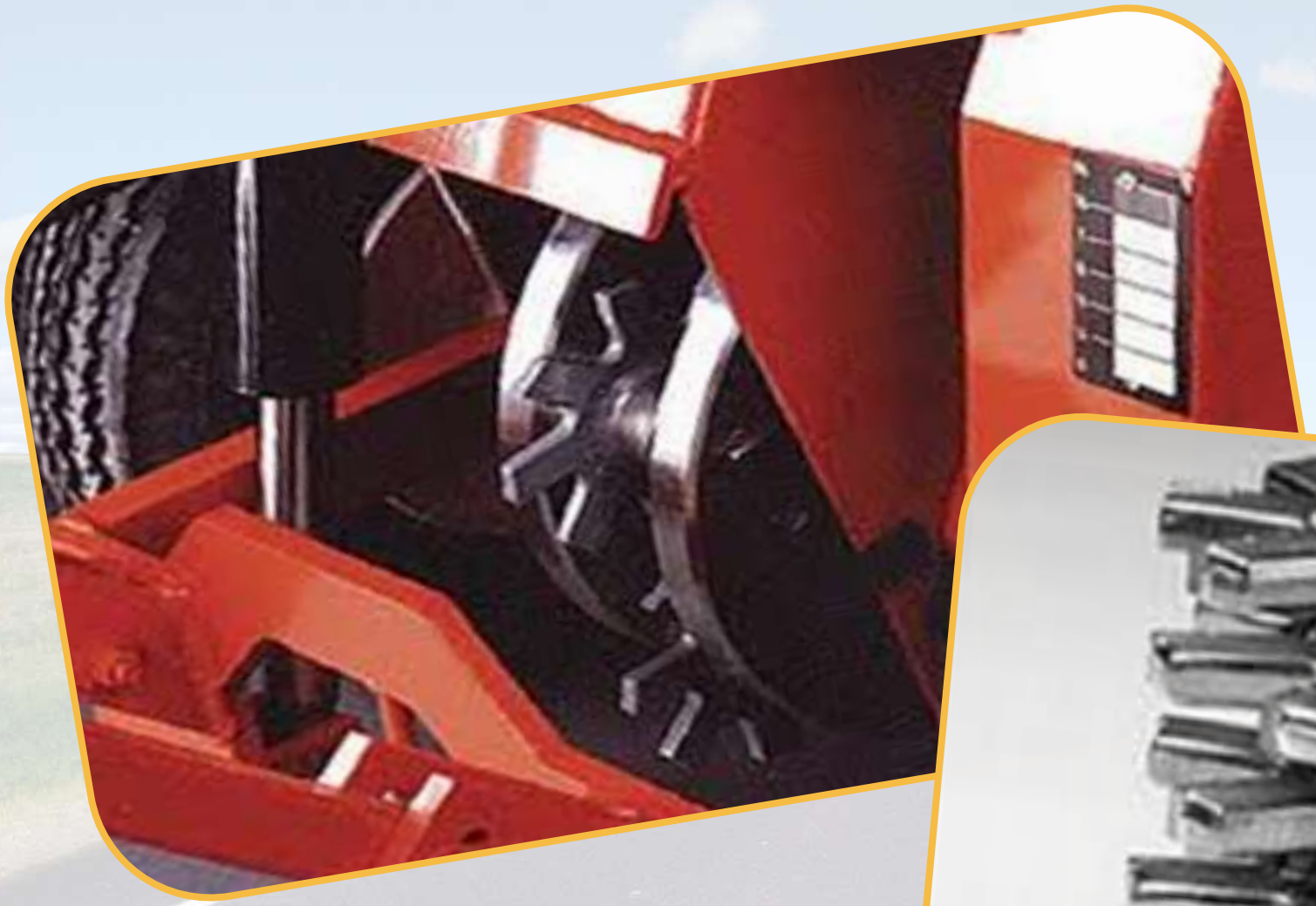
Thermal Crack

Rout Size Recommendation



Routing

- Rout at least 1/8” from each crack face
- Keep centered over crack
- Reduce spalling by using as many cutters as possible



Check Width & Depth

Clean Debris

Clean reservoir


INGERSOLL-RAND

Melting Sealant

- Follow Manufacturer's recommendations
  - Recommended pouring temperature
  - Maximum temperature
  - # of heating cycles
  - How long
- Temperature at the end of wand
- Recommend sampling out of wand

MAXIMUM AIR PRESSURE -100 PSI
MAXIMUM AIR FLOW -180 CFM

MATERIAL THERMOMETER

-TURN AIR OFF AT COMPRESSOR BEFORE ATTEMPTING TO CONNECT OR DISCONNECT AIR HOSE TO AIRCLEANOUT PORT

-WEAR APPROVED FACE SHIELD

TANK OUTLET VALVE

CLOSE

-NOTE

OPEN VALVE TO FULL ON POSITION DURING OPERATION

Single Fill Method Flush

Double Fill Method

Double Fill Method

- Flush filled with thin narrow OB
- 2 Kettles needed
- 1st fill reservoir ½ to ⅔ full
  - Allow couple minutes for sealant to cool and set
- 2nd finish filling reservoir and create OB

Crack Filling Treatment

- In longitudinal, block, fatigue and closely spaced transverse cracks (< 20’ spacing)
- In wheel paths and high traffic areas
- Stiffer using more “traffic resistant” product
- Routed or non-routed reservoirs, over-band application

Crack Type – Longitudinal

Fatigue Crack

Not a Candidate for Crack Sealing

Pick Best Sealant for Climate

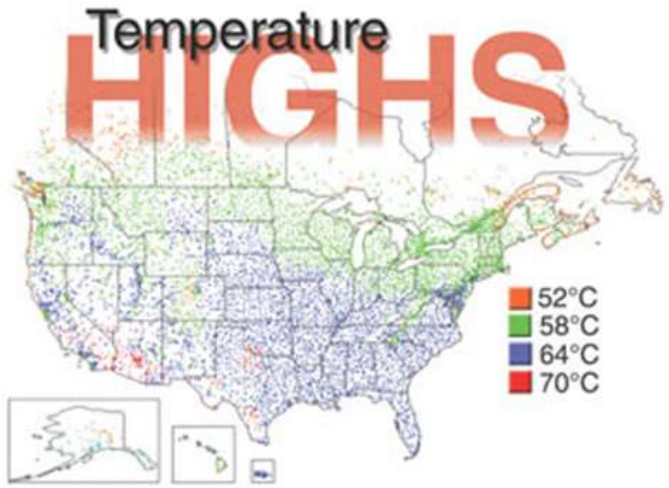
Three Step Sealant Selection

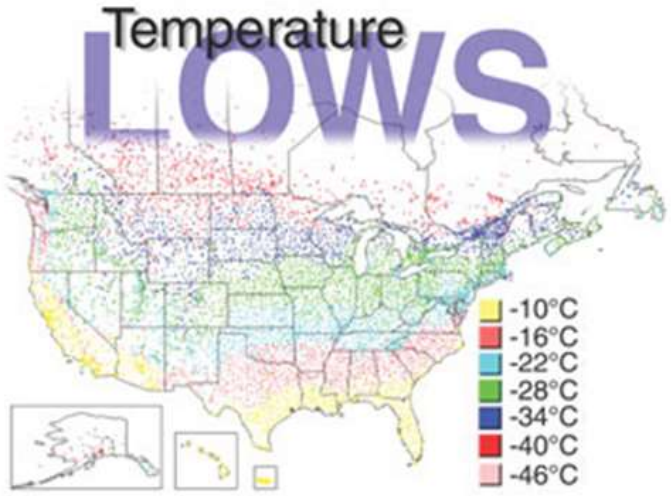
1 - Determine whether to **Crack Seal**, **Crack Fill** or **Joint Seal** by using the Pavement Evaluation Guide link below.

PAVEMENT EVALUATION GUIDE

2 - Select your **Temperature Model** by selecting the "**High**" and "**Low**" temperatures in your region using the temperature guide maps below.

3 - **Cross reference the high and low temperature** on the charts below to determine the proper sealant for your application. (Click on your selection)





Sealants

- Crumb rubber
  - Clean and seal
- Low modulus
  - Clean and seal
  - Rout and seal
- Extra low modulus
  - Rout and seal
  - Transverse cracks only!!!

Cohesive Failure

Adhesive Failure

Basic Needs for All Installations

- Clean - most important
- Dry
- Intact pavement
- Proper temperature (pavement 40°F and application of sealant at manufacturer's recommended temperature)

Cleaning Methods

- Routing - cuts new bonding surface
- Compressed air - sufficient pressure and velocity
- Vacuum - in combination with compressed air
- Heat lance - used to condition pavement

Clean Cracks

Dirty

Clean

Sealant Application – Over-band

- Maximum 1/8” thick
- Maximum 3/4” over-band on each side of crack
- Over-band – best performance (SHRP/FHWA)

Neat Application

Recommended Over-band Appearance (Non-Rout/Clean & Fill)

Not Recommended

Asking Water to Jump the Crack

Don’t forget edge joints

Summary – Why Crack Treatment?

- Prevents water intrusion into subbase
- Prevents incompressible intrusion
- Improves ride quality smoothness
- Slows down pavement deterioration
- COST-EFFECTIVE

Questions?

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Thank You!

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