MAINTENANCE PLANNING GUIDELINES 2/2014

ACTIVITY: Bridge Preventative Mtc (R322)
MAJOR & MINOR

ACTION: Bridge Seal Coats (SF)

DEFINITION: The time and expenses incurred for the application of preventative maintenance treatments to bridges. Examples include bridge seal coats, silane and in-deck seals.

PURPOSE: To seal bridge decks with excessive cracking to prevent intrusion of water and chlorides into the bridge deck.

SCHEDULING: Seals should be scheduled after surface repairs are completed. Work should be performed in July and August

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
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RECOMMENDED EQUIPMENT:

- Dump Trucks
- Truck Distributor
- Power Roller/Pneumatic Roller
- Aggregate Spreader
- Broom
- Traffic Control Equipment; (See EPG 616.23 Traffic Control for Field Operations)

RECOMMENDED MATERIAL:

- Liquid Asphalt (EA90P, CRS-2P)
- Cover Aggregate (Iron Mountain trap rock, Joplin chat, or other approved material)

RECOMMENDED PROCEDURE:

1. Deck should be cleaned, repairs made, flushed, and allowed to dry prior to sealing.
2. Contact Dig Rite and others to mark utilities.
3. Place traffic control devices as required. Review guidance for use of "Fresh Oil" and "Loose Gravel" signs EPG 616.23.2.7.6 and "No Center Line" signs, EPG 616.23.2.5.7.
4. Cover expansion devices and other features that are not to be sealed over with felt paper.
5. Set temporary pavement marking if needed.
6. Chip seals are to extend a minimum of 30 feet beyond each bridge end.
7. Apply liquid asphalt at a rate depending on size of cover aggregate and slope of bridge deck.
8. Spread cover aggregate, immediately following application of liquid asphalt. Adequate cover aggregate must be applied to prevent tracking. Do not place cover aggregate within 2 ft. of curb.
9. Roll immediately after placing cover aggregate.
10. Lightly broom excess chips after seal is properly cured (when chips are securely held).
11. Repeat for adjacent lanes.
12. Remove traffic control devices.

SAFETY: Watch for flying rocks and traffic in adjacent lanes. Refer to the *Comprehensive Safety Program sharepoint portal*. Wear all appropriate PPE. Refer to the Risk Based Assessment for additional information.

OTHER CONSIDERATIONS:

REFERENCES: EPG 771.15 Chip Seal to Entire Deck.

MAINTENANCE PLANNING GUIDELINES 2/2014

ACTIVITY: Bridge Preventative Maintenance (R322)
MAJOR & MINOR

ACTION: Silane & In-Deck Seals (SF)
A. Silane

DEFINITION: The time and expenses incurred with maintaining bridges on the state highway system. Examples include bridge seal coats, silane and in-deck seals.

PURPOSE: To reduce penetration of moisture and chemicals into the deck by the application of silane to concrete bridge decks.

SCHEDULING: Schedule when forecast is for dry weather with temperatures ranging between 40-90 degrees.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

RECOMMENDED EQUIPMENT:

- Dump Truck/Cinderbed
- Truck or Trailer Distributor
- Traffic Control (See EPG 616.23 Traffic Control for Field Operations)

RECOMMENDED MATERIAL:

- Silane

RECOMMENDED PROCEDURE:

1. Place traffic control devices as needed.
2. The deck should be completely clean and dry. Remove any loose dirt or dust immediately prior to the application of the mixture.
3. Stop traffic while the material is applied to prevent over spray on vehicles.
4. Apply product to as much of the previously cleaned deck as traffic control requirements will allow, using the following 1 gal/100 sq ft.application rate.
5. Apply product to the inside face and top of the barrier curbs.
6. Allow product to penetrate bridge deck and dry.
7. Repeat treatment steps to the remaining untreated lanes.
8. Remove traffic control devices.

SAFETY: Avoid skin and eye contact with solutions. Wear all appropriate PPE. Care must be exercised when using this product to prevent igniting. Refer to the *Comprehensive Safety Program sharepoint portal*. Wear all appropriate PPE. Refer to the Risk Based Assessment for additional information.

OTHER CONSIDERATIONS: Crews may consider wearing disposable coveralls to avoid contact with material and to protect clothing. Spray must be controlled to keep mixture from getting on passing vehicles or adjacent property.

REFERENCES:

MAINTENANCE PLANNING GUIDELINES	2/2014
ACTIVITY: Bridge Preventative Mtc (R322) **MAJOR & MINOR**	**ACTION:** Silane & In-Deck Seals (SF) *B. In-Deck*

DEFINITION: The time and expenses incurred for the application of preventative maintenance treatments to bridges. Examples include bridge seal costs and silane and in-deck seals.

PURPOSE: To seal bridge decks with excessive cracking to prevent intrusion of water and chlorides into the bridge deck.

SCHEDULING: Work should be preformed in temperatures below 75 degrees. Temperatures below 55 degrees may require longer dry times.

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

RECOMMENDED EQUIPMENT:

- Material Mixing Tank or Barrel
- Traffic Control (See EPG 616.23 Traffic Control for Field Operations)

RECOMMENDED MATERIAL:

- Pavon In Deck
- Water
- Blotting Material (sand/cinders)

RECOMMENDED PROCEDURE:

1. Contact Dig Rite and others to mark utilities.
2. Place traffic control devices as required. Review guidance for use of "Fresh Oil" and "Loose Gravel" signs EPG 616.23.2.7.6 and "No Center Line" signs, EPG 616.23.2.5.7.
3. The deck should be completely clean and dry. Remove any loose dirt or dust immediately prior to the application.
4. Set temporary pavement marking if needed.
5. Cover expansion devices and other features that are not to be sealed over with felt paper.
6. Thoroughly mix Pavon In Deck with water at job site to form a 50/50 mixture. Estimate 1 gal. of mixture for each 100 sq. ft. of surface to seal; (0.10 gal/sy)
7. Pour material directly onto the surface or apply by other means. Using stiff bristle brooms, uniformly distribute product around the deck surface, making sure not to leave any puddles. Broom parallel along existing tine markings to make sure that material does not fill in texturing. Frequently go back and broom out any puddles that may redevelop.
8. Allow product to stand until completely dry. Apply sand to the deck surface while material is still tacky, to help blot excess material, prevent tracking, and improve short-term skid resistance.
9. Repeat treatment steps to the remaining untreated lanes.
10. Remove excess sand when the deck is completely dry.
11. Remove traffic control devices.

SAFETY: Wearing rubber boots is recommended for this function. Refer to the *Comprehensive Safety Program sharepoint portal*. Wear all appropriate PPE. Refer to the Risk Based Assessment for additional information.

OTHER CONSIDERATIONS: Runoff from sealing needs to be controlled to prevent contamination of waterways and property damage.

REFERENCES: EPG Bridge Deck Total Surface Treatment - In Deck