

MAINTENANCE PLANNING GUIDELINES		2006																																																
ACTIVITY: Chip Sealing (R31C) MINOR (Only)	ACTION: Chip Sealing <i>A. Course Aggregate (LM)</i>																																																	
DEFINITION: The time and expenses incurred for spot or continuous seals using either hand or bar application of bituminous material and covering with aggregate material either by hand, tailgate or spreader. This includes course aggregate chip seals & fine aggregate chip seals.																																																		
PURPOSE: To seal out surface moisture on cracked or deteriorating asphaltic surfaces, extend pavement life, and improve skid resistance.																																																		
SCHEDULING: As needed during warm weather with the bulk prior to October 15.	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> </tr> <tr> <td>A</td><td>E</td><td>A</td><td>P</td><td>A</td><td>U</td><td>U</td><td>U</td><td>E</td><td>C</td><td>O</td><td>E</td> </tr> <tr> <td>N</td><td>B</td><td>R</td><td>R</td><td>Y</td><td>N</td><td>L</td><td>G</td><td>P</td><td>T</td><td>V</td><td>C</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>		J	F	M	A	M	J	J	A	S	O	N	D	A	E	A	P	A	U	U	U	E	C	O	E	N	B	R	R	Y	N	L	G	P	T	V	C												
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RECOMMENDED EQUIPMENT:	RECOMMENDED PROCEDURE:																																																	
<ul style="list-style-type: none"> • Asphalt Distributor • Dump Trucks w/Spreaders or Chip Spreaders • Pneumatic Roller(s) • Broom/Sweeper • Traffic Control Equipment; reference (See EPG 616.23 Traffic Control for Field Operations) 	<ol style="list-style-type: none"> 1. Consult with Materials Office and vendor for design and application rates. 2. Place traffic control devices as required. 3. Sweep the existing surface to clean and remove loose debris. 4. Set temporary pavement marking. 5. Check application rate for distribution of aggregate and binder depending on field specific conditions. Adjust as necessary for each job. 6. Roll immediately. 7. Excess aggregate should be swept off and removed when surface is cured. 8. Remove traffic control devices, except the “No Center Stripe,” “Fresh Oil” and “Loose Gravel” signs. 9. “Fresh Oil” and “Loose Gravel” signs should remain in place until surface is cured and loose aggregate has been thoroughly swept off. 																																																	
RECOMMENDED MATERIAL:																																																		
<ul style="list-style-type: none"> • Liquid Binder – Sealing Grades <p>Check with Materials Office for proper selection of aggregate. (½-in.- ¾-in.) Aggregate size.</p>																																																		
SAFETY: Care should be taken to reduce the amount of loose aggregate. Motorists should be warned to drive slowly and watch for fresh asphalt and moving equipment. Refer to the Safety Policies, Rules & Regulations – Employee Handbook.																																																		
OTHER CONSIDERATIONS: May substitute lightweight aggregate to minimize vehicle damage claims. Use a pneumatic roller to improve rock retention by asphalt. It is advisable to hold a traffic control planning session prior to projects.																																																		
REFERENCES: Missouri Standard Specifications for Highway Construction Sections 409, 1003, 1015. EPG 409 Seal Coat.																																																		

R31C – Chip Sealing – Course Aggregate



(1) MO 45 Haydite Chip Seal Distributor



(2) Distributor



(3) MO 45 Haydite Chip Seal



(4) MO 45 Haydite Chip Seal



(5) MO 45 Haydite Chip Seal



(6) MO 45 Haydite Chip Seal

*Missouri Department of Transportation
Maintenance Activity Planning Guidelines*



(7) MO 45 Haydite Chip Seal



(8) D1 Distributor



(9) D1 Chipper



(10) D1 Pneumatic Roller



(11) D1 Finished Product

*Missouri Department of Transportation
Maintenance Activity Planning Guidelines*



(12) D9 Distributor



(13) D9 Distributor



(14) D9 Chipper



(15) D9 Chipper



(16) D9 Sweeper



(17) D9 Pneumatic Roller

MAINTENANCE PLANNING GUIDELINES		2006																																																
ACTIVITY: Chip Sealing (R31C) MINOR (Only)	ACTION: Chip Sealing <i>B. Fine Aggregate (LM)</i>																																																	
DEFINITION: The time and expenses incurred for spot or continuous seals using either hand or bar application of bituminous material and covering with aggregate material either by hand, tailgate or spreader. This includes course aggregate chip seals & fine aggregate chip seals.																																																		
PURPOSE: To seal out surface moisture on cracked or deteriorating asphaltic surfaces, extend pavement life, and improve skid resistance.																																																		
SCHEDULING: When temperatures are 65°F and rising.	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>J</td><td>F</td><td>M</td><td>A</td><td>M</td><td>J</td><td>J</td><td>A</td><td>S</td><td>O</td><td>N</td><td>D</td> </tr> <tr> <td>A</td><td>E</td><td>A</td><td>P</td><td>A</td><td>U</td><td>U</td><td>U</td><td>E</td><td>C</td><td>O</td><td>E</td> </tr> <tr> <td>N</td><td>B</td><td>R</td><td>R</td><td>Y</td><td>N</td><td>L</td><td>G</td><td>P</td><td>T</td><td>V</td><td>C</td> </tr> <tr> <td></td><td></td><td></td><td style="background-color: black;"></td><td style="background-color: black;"></td><td style="background-color: black;"></td><td style="background-color: black;"></td><td style="background-color: black;"></td><td></td><td></td><td></td><td></td> </tr> </table>		J	F	M	A	M	J	J	A	S	O	N	D	A	E	A	P	A	U	U	U	E	C	O	E	N	B	R	R	Y	N	L	G	P	T	V	C												
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RECOMMENDED EQUIPMENT: <ul style="list-style-type: none"> • Truck Distributor • Chip Spreader • Optional Brooms • Rubber Tire Roller • Trucks • Optional Pilot Truck • Traffic Control Equipment; (See EPG 616.23 Traffic Control for Field Operations) 	RECOMMENDED PROCEDURE: <ol style="list-style-type: none"> 1. Place traffic control devices as needed. 2. Sweep the existing surface to clean and remove loose debris. 3. Set temporary pavement marking. 4. Apply asphalt at recommended rate and broom as necessary. 5. Cover asphalt with blotting material. 6. Broom blotting material. 7. Roll with rubber tire roller. 8. Remove traffic control devices, except “Fresh Oil” and “No Center Stripe” signs, and open to traffic. 9. “Fresh Oil” and “Loose Gravel” signs should remain in place until surface is cured and loose aggregate has been thoroughly swept off. 																																																	
RECOMMENDED MATERIAL: <ul style="list-style-type: none"> • Liquid Binder – Sealing Grades Check with Materials Office for proper selection of aggregate. (³/₁₆-in. or less) Aggregate Size. • Sand – Other Blot Material 																																																		
SAFETY: Wear all appropriate PPE. Refer to the Safety Policies, Rules & Regulations – Employee Handbook.																																																		
OTHER CONSIDERATIONS: Clean up excess material with power broom.																																																		
REFERENCES: Missouri Standard Specifications for Highway Construction Sections 413.20, 1015																																																		

R31C Chip Seals – Fine Aggregate



(1) Cinder Seal Operation



(2) Dump Truck unloading Cinders into Chipper



(3) Dump Truck unloading Cinders into Chipper



(4) Chipper applying Cinders to Road Bed



(5) Rubber Tired Roller



(6) Cinder Seal Operation