
GUIDELINES FOR USING PRIME AND TACK COATS

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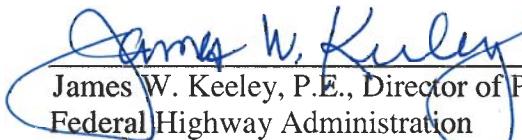
FOREWORD

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The objective of this study was to produce a prime and tack coat guide publication developed for project development and field personnel to provide decision-making guidance on how to use, when to keep, and when to eliminate prime and tack coats.

The study included a literature search on prime and tack coats, a review of environmental considerations for prime and tack coat usage and a phone survey of current practice of state DOTs from the CFLHD region. Recommendations for improving CFLHD's specifications were made¹. Based on the information collected, a guideline for CFLHD project development and field personnel was developed. The guideline provides decision-making guidance on how to use, when to keep, and when to eliminate prime and tack coats.

The contributions and cooperation of the CFLHD personnel is gratefully acknowledged.



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16. Abstract Prime and tack coats have a purpose in the pavement construction process, yet many times they are misused or eliminated during the project. While most of the time no harm appears to occur to the roadway, technical guidance is warranted to assure appropriate usage. The objective of this study was to produce a prime and tack coat guide publication developed for project development and field personnel to provide decision-making guidance on how to use, when to keep, and when to eliminate prime and tack coats. A literature search, which focused on handbooks and technical reports, was conducted to determine the applicability and benefits of prime and tack coat, prime and tack coat effectiveness, materials used and when and where they are used. CFLHD's current construction specifications were compared with best practices determined from the literature and phone surveys of current practice of state DOTs from the CFLHD region. Finally, a review of the potential harmful and positive environmental effects of the prime and tack coat process, including the various bituminous products used, was undertaken. Based on the information collected, a guideline for CFLHD project development and field personnel was developed. The guideline provides decision-making guidance on how to use, when to keep, and when to eliminate prime and tack coats.			
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SI* (MODERN METRIC) CONVERSION FACTORS				
APPROXIMATE CONVERSIONS TO SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
		LENGTH		
in	inches	25.4	Millimeters	mm
ft	feet	0.305	Meters	m
yd	yards	0.914	Meters	m
mi	miles	1.61	Kilometers	km
		AREA		
in ²	square inches	645.2	square millimeters	mm ²
ft ²	square feet	0.093	square meters	m ²
yd ²	square yard	0.836	square meters	m ²
ac	acres	0.405	Hectares	ha
mi ²	square miles	2.59	square kilometers	km ²
		VOLUME		
fl oz	fluid ounces	29.57	Milliliters	mL
gal	gallons	3.785	Liters	L
ft ³	cubic feet	0.028	cubic meters	m ³
yd ³	cubic yards	0.765	cubic meters	m ³
NOTE: volumes greater than 1000 L shall be shown in m ³				
		MASS		
oz	ounces	28.35	Grams	g
lb	pounds	0.454	Kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
		TEMPERATURE (exact degrees)		
°F	Fahrenheit	5 (F-32)/9 or (F-32)/1.8	Celsius	°C
		ILLUMINATION		
fc	foot-candles	10.76	Lux	lx
fl	foot-Lamberts	3.426	candela/m ²	cd/m ²
		FORCE and PRESSURE or STRESS		
lbf	poundforce	4.45	Newtons	N
lbf/in ²	poundforce per square inch	6.89	Kilopascals	kPa
APPROXIMATE CONVERSIONS FROM SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
		LENGTH		
mm	millimeters	0.039	Inches	in
m	meters	3.28	Feet	ft
m	meters	1.09	Yards	yd
km	kilometers	0.621	Miles	mi
		AREA		
mm ²	square millimeters	0.0016	square inches	in ²
m ²	square meters	10.764	square feet	ft ²
m ²	square meters	1.195	square yards	yd ²
ha	hectares	2.47	Acres	ac
km ²	square kilometers	0.386	square miles	mi ²
		VOLUME		
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	Gallons	gal
m ³	cubic meters	35.314	cubic feet	ft ³
m ³	cubic meters	1.307	cubic yards	yd ³
		MASS		
g	grams	0.035	Ounces	oz
kg	kilograms	2.202	Pounds	lb
Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
		TEMPERATURE (exact degrees)		
°C	Celsius	1.8C+32	Fahrenheit	°F
		ILLUMINATION		
lx	lux	0.0929	foot-candles	fc
cd/m ²	candela/m ²	0.2919	foot-Lamberts	fl
		FORCE and PRESSURE or STRESS		
N	newtons	0.225	Poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in ²

*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380.
(Revised March 2003)

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