



South Carolina
Department of Transportation

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January 31, 1997

INSTRUCTIONAL BULLETIN NO. 97-3

SUBJECT: Guidelines for Hot Mix Asphalt Selection

EFFECTIVE DATE: January 20, 1997

SUPERSEDES: Memorandum dated October 29, 1993, to Road Design

RE: State Highway Engineer's memorandum dated January 20, 1997 - Subject: Selection of Asphalt Mixes (attached)

Superseded
by 1999-6

Superseded
by 1999-8

Attached is the table, Guidelines for Hot Mix Asphalt Selection, dated 1-10-97 to be used for the selection of hot asphalt mixes for all future projects beginning with the March highway letting.

Approved: _____

E. S. Fargle
Road Design Engineer

ESE:adf

Attachment

cc:

Proj. Dev. Engr. Pratt

GUIDELINES FOR HOT MIX ASPHALT SELECTION

TYPE COURSE	TYPE FACILITY							
	INTERSTATE	HEAVY DUTY PRIMARY (INCLUDES ALL NHS ROUTES)		INTERSECTIONS & PROBLEM AREAS	PRIMARY & HIGH VOLUME SECONDARY	LOW VOLUME SECONDARY ROUTES 1500 VPD OR LESS		
SURFACE	SUPERPAVE 1/2" MAX. (12.5 mm) MIN. RATE 175#/SY (95 kg/m ²)	TYPE-1 B MIN. RATE 200#/SY (109 kg/m ²)	TYPE-1 C MIN. RATE 175#/SY (95 kg/m ²)	TYPE-1 B MIN. RATE 200#/SY (109 kg/m ²)	TYPE-1 MIN. RATE 150#/SY (80 kg/m ²)	TYPE-3 MIN. RATE 150#/SY (80 kg/m ²)	TYPE-4 MIN. RATE 125#/SY (68 kg/m ²)	TYPE-5 MIN. RATE 125#/SY (68 kg/m ²)
	FINE & COURSE: CRUSHED AGGR. REQUIRED	FINE & COURSE: CRUSHED AGGR. REQUIRED	FINE & COURSE: CRUSHED AGGR. REQUIRED	FINE & COURSE: CRUSHED AGGR. REQUIRED	FINE & COURSE: CRUSHED AGGR. REQUIRED	FINE & COURSE: CRUSHED AGGR. REQUIRED	UNCRUSHED GRAVEL AND LOCAL SAND PERMITTED	UNCRUSHED GRAVEL AND LOCAL SAND PERMITTED
LIQUID ASPHALT BINDER	4.8%	5.1%	5.0%	5.1%	6.0%	6.0%	6.4%	6.4%
INTERMEDIATE	SUPERPAVE 3/4" MAX. (19 mm)	BINDER TYPE-1			BINDER TYPE-2			
	FINE & COURSE: CRUSHED AGGR. REQUIRED	FINE AND COURSE: CRUSHED AGGREGATE REQUIRED			UNCRUSHED GRAVEL AND LOCAL SAND PERMITTED			
LIQUID ASPHALT BINDER	4.0%	5.1%			5.1%			
ASPHALT AGGREGATE BASE	ASPHALT AGGREGATE BASE CR. TYPE-1				ASPHALT AGGREGATE BASE CR. TYPE-2			
	FINE AND COURSE: CRUSHED AGGREGATE REQUIRED				UNCRUSHED GRAVEL AND LOCAL SAND PERMITTED			
LIQUID ASPHALT BINDER	4.9%				4.9%			
LEVELING AND BUILD-UP	SURFACE SUPERPAVE OR TYPE-1 OR TYPE-1C BINDER TYPE-1 ASPH. AGGR. BASE COURSE TYPE-1 REQUIRED				SURFACE TYPE-1, TYPE-3, TYPE-4 OR TYPE-5 BINDER TYPE-2 ASPH. AGGR. BASE COURSE TYPE-2 PERMITTED			
ANTI-STRIP	ADD HYDRATED LIME REQUIRED				ADD HYDRATED LIME REQUIRED - EXCEPT AS NOTED BELOW			

NOTES:

1. NO RECYCLED ASPHALT PAVEMENT (RAP) ALLOWED IN SUPERPAVE, TYPE-1B OR TYPE-1C MIX.
2. LIQUID ASPHALT BINDER IS THE PERCENTAGE USED FOR QUANTITY CALCULATIONS FOR LIQUID ASPHALT BINDER IN PAVING MIXTURES.
3. LOCAL SAND WOULD BE PERMITTED IN SAND ASPHALT BASE COURSE.
4. HYDRATED LIME REQUIRED IN ALL MIXES EXCEPT SURFACE COURSE TYPE-4 AND TYPE-5.
SURFACE COURSE TYPE-4 AND TYPE-5 WOULD ALLOW A LIQUID ANTI-STRIP ADDITIVE, EXCEPT WHERE USED FOR LEVELING AND BUILD-UP.
5. CRUSHED AGGREGATE IS DEFINED AS AN AGGREGATE HAVING TWO OR MORE FRESHLY MECHANICALLY INDUCED FRACTURED FACES ON AT LEAST 70% BASED ON COUNT, OF THE MATERIAL RETAINED ON THE NO. 4 SIEVE.



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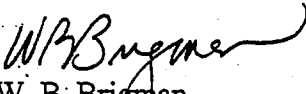
January 20, 1997

MEMORANDUM TO: ~~DIRECTOR~~ DIRECTOR OF PRECONSTRUCTION DUBOSE
DIRECTOR OF CONSTRUCTION FREEMAN
DIRECTOR OF PLANNING CAMPBELL
DIRECTOR OF TRAFFIC ENGINEERING WERTS
DIRECTOR OF MAINTENANCE WERTZ
DISTRICT ENGRG. ADM. CHAPMAN, DISTRICT #1
DISTRICT ENGRG. ADM. DERRISO, DISTRICT #2
DISTRICT ENGRG. ADM. BUSBEE, DISTRICT #3
DISTRICT ENGRG. ADM. HOLLADAY, DISTRICT #4
DISTRICT ENGRG. ADM. LEWIS, DISTRICT #5
DISTRICT ENGRG. ADM. MILLS, DISTRICT #6
DISTRICT ENGRG. ADM. CAMPBELL, DISTRICT #7

SUBJECT: Selection of Asphalt Mixes

Reference is made to the July 24, 1996 memorandum from then Deputy Director for Engineering Keller concerning the subject, "Use of Type 1B Pavement". Through continued research of various asphalt mixes by the Research and Materials Laboratory, the "Guidelines for Hot Mix Asphalt Selection" has been revised and hereby supersedes the above mentioned memorandum. A copy of the revised "Guidelines for Hot Mix Asphalt Selection" dated 1-10-97 is attached.

It is requested that all under your charge, that may utilize these guidelines, be advised of this change and a copy of the guidelines be provided to them. Thank you for your continued cooperation in light of this ever-changing criteria.


W. B. Brigman
State Highway Engineer



Attachment

WBB:adf

FILE:PC/ESE

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TYPE COURSE	TYPE FACILITY							
	INTERSTATE	HEAVY DUTY PRIMARY (INCLUDES ALL NHS ROUTES)		INTERSECTIONS & PROBLEM AREAS	PRIMARY & HIGH VOLUME SECONDARY	LOW VOLUME SECONDARY ROUTES 1500 VPD OR LESS		
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