New Jersey Department of Transportation

1035 Parkway Avenue, PO Box 600, Trenton, New Jersey 08625-0600



Baseline Document Change Announcement

ANNOUNCEMENT: BDC22S-04

DATE: May 13, 2022

SUBJECT: Asphalt Binder

- Revision to the 2019 Standard Specifications for Road and Bridge Construction, Subparts 159.02.01 and 401.02.01, & Section 902, and the 2019 Standard Inputs, Subsection 65X.02

Subparts 159.02.01 and 401.02.01 & Section 902 of the 2019 Standard Specifications for Road and Bridge Construction, and Subsection 65X.02 of the 2019 Standard Inputs have been revised in order to rename the asphalt binder from PG 64-22 to PG 64S-22 to follow AASHTO M332 in place of AASHTO M320.

The following revisions have been incorporated into the Standard Inputs (SI 2019):

159.02.01 Materials THE FIRST ITEM IS CHANGED TO:	
Tack Coat 64-22	902.01.01
401.02.01 Materials	
THE FIRST ITEM IS CHANGED TO:	
Tack Coat 64-22, PG 64S-22	902.01.01
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65X.02 MATERIALS	
THE FIRST ITEM IS CHANGED TO IN THE SI:	
Tack Coat 64-22, PG 64S-22	902.01.01
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902.01.01 Asphalt Binder

THE FIRST TWO PARAGRAPHS ARE CHANGED TO:

Use an asphalt binder that is storage-stable and conforms to AASHTO M 332. Include compliance with the elastic response requirement in Figure 1 of AASHTO R 92, if applicable.

902.02.01 Mix Designations

PART (4) IS CHANGED TO:

4. "E" The fourth field in the Item description designates the high temperature designation of the performance-graded binder. Options are "64" for PG 64S-22 and "E" for PG 64E-22.

902.02.04 Sampling and Testing

A General Acceptance Requirements.

THE SECOND PARAGRAPH OF SECTION (A) IS CHANGED TO:

For PG 64S-22, ensure that the temperature of the mixture at discharge from the plant or surge and storage bins is at least 290 °F when the ambient temperature is less than 50 °F or is at least 275 °F when the ambient temperature is greater than or equal to 50 °F. For PG 64E-22, ensure that the temperature of the mixture at discharge from the plant or surge and storage bins is at least 10 °F above the manufacturer's recommended laydown temperature. For mixes produced using a WMA additive or process, ensure that the temperature of the mixture at discharge from the plant or surge and storage bins is at least 10 °F above the WMA manufacturer's recommended laydown temperature.

902.06.01 Composition

THE SECOND PARAGRAPH IS CHANGED TO:

The mixture shall consist of asphalt binder and aggregate and may contain a WMA additive. Use asphalt binder that is PG 64S-22 as specified in 902.01.01. Use aggregate that conforms to 901.05.01 or 901.05.02 and the gradation requirements specified in Table 902.06.01-1.

902.07.02 Asphalt-Rubber Binder

PART (2) SUBSECTION (A) IS CHANGED TO:

2. Asphalt Binder.

a. Use asphalt binder that conforms to AASHTO M 332, Table 1; PG 64S-22, PG 58-28 or an approved blend of both grades. The asphalt binder producer is required to provide the asphalt binder quality control plan annually to the ME for approval. Ensure that the quality control plan conforms to AASHTO R 26. Submit to the ME a certification of compliance, as specified in 106.07, for the asphalt binder. The ME will perform quality assurance sampling and testing of each asphalt binder lot as defined in the approved quality control plan.

902.13.01 Mix Designations

PART (4) IS CHANGED TO:

4. "E" The fourth field in the Item description designates the high temperature designation of the performance-graded binder. Options are "64" for PG 64S-22 and "E" for PG 64E-22.

902.13.03 Mix Design

TABLE 902.13.03-2 CHANGED TO:

Table 902.13.03-2 Performance Testing Requirements for HMA HIGH RAP Design					
	Requirement				
Test	Surface Course		Intermediate and Base Course		
	PG 64S-22	PG 64E-22	PG 64S-22	PG 64E-22	
APA @ 8,000 loading cycles (AASHTO T 340)	≤ 7 mm	≤ 4 mm	≤ 7 mm	≤ 4 mm	
Overlay Tester (<u>NJDOT B-10</u>)	≥ 200 cycles	≥ 275 cycles	≥ 100 cycles	≥ 150 cycles	

902.13.04 Sampling and Testing TABLE 902.13.04-2 CHANGED TO:

Table 902.13.04-2 Surface Course Performance Testing Pay Adjustments for HMA HIGH RAP				
	Surface Course		PPA	
	PG 64S-22	PG 64E-22		
APA @ 8,000 loading cycles, mm (AASHTO T 340)	t ≥ 7	t ≤ 4	0	
	7 < t ≤ 10	4 < t ≤ 7	PG 64S-22: -50(t-7)/3 PG 64E-22: -50(t-4)/3	
	t > 10	t > 7	-100 or Remove & Replace	
Overlay Tester, cycles (NJDOT B-10)	t ≥ 200	t ≥ 275	0	
	200 > t ≥ 150	$275 > t \ge 200$	Surface PG, 64S-22: -(200-t) Surface PG 64E-22: -(275-t)/1.5	
	t < 150	t < 200	-100 or Remove & Replace	

TABLE 902.13.04-3 CHANGED TO:

Table 902.13.04-3 Intermediate and Base Course Performance Testing Pay Adjustments for HMA HIGH RAP					
	Intermediate and Base Course		DDA		
	PG 64S-22	PG 64E-22	PPA		
APA @ 8,000 loading cycles, mm (AASHTO T 340)	t ≤ 7	t ≤ 4	0		
	7 < t ≤ 10	4 < t ≤ 7	PG 64S-22: -50(t-7)/3 PG 64E-22: -50(t-4)/3		
	t > 10	t > 7	-100 or Remove & Replace		
Overlay Tester, cycles (NJDOT B-10)	t ≥ 100	t ≥ 150	0		
	100 > t ≥ 75	150 > t ≥ 110	Intermediate PG 64S-22: -(2t-200) Intermediate PG 64E-22: -1.25(150-t)		
	t < 75	t < 110	-100 or Remove & Replace		

Implementation Code R (ROUTINE)

Changes must be implemented in all applicable Department projects scheduled for Final Design Submission at least one month after the date of the BDC announcement. This will allow designers to make necessary plan, specifications, and estimate/proposal changes without requiring the need for an addenda or postponement of advertisement or receipt of bids.

Recommended By:

Paul F. Schneider

Director

Capital Program Support

Approved By:

Snehal Patel, P.E., PMP

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PS: NE: HP