Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 64-22 OK) Mat'l. Code: asco012
(Material Full Name and Material Code)

Insoluble ID: I1
(Design Type and Design Type ID)

Bison Asphalt P/S # m01097
(Producer/Supplier Name and Producer/Supplier Code)

S4pv0441800700
(Mix ID)

Bison Asphalt (Portable) PLANT ID # m01097-01
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
#67 Rock	Bison Materials LLC (Bartlesville, OK) P/S # m008957409	20
CM-5	Bingham S & G (Baxter Springs, KS) P/S # m001578009	20
Man. Sand	Bison Materials LLC (Bartlesville, OK) P/S # m008957409	17
Fine Scrns.	Bison Materials LLC (Bartlesville, OK) P/S # m008957409	28
Sand	Sober Sand Co. (Ponca City, OK) P/S # m005373601	15

Asphalt Additive, Anti-Strip: ADHERE LOF 65-00LS addi003 ARR-MAZ Products, LP (Winter Haven, FL) m00070
(Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)

Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, HollyFrontier (Catoosa, OK), m01028
(Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)

Requires Form 93-E0 signed by the Department for production use.
-Oklahoma D.O.T. Materials-

Sieve Size	#67 Rock	CM-5	Man. Sand	Fine Scrns.	Sand				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
Producer/Supplier:	Bison Materials LLC (Bartlesville, OK) P/S # m008957409	Bingham S & G (Baxter Springs, KS) P/S # m001578009	Bison Materials LLC (Bartlesville, OK) P/S # m008957409	Bison Materials LLC (Bartlesville, OK) P/S # m008957409	Sober Sand Co. (Ponca City, OK) P/S # m005373601								
3/4 in (19 mm)	100	100	100	100	100				100	100	100	100	0
1/2 in (12.5 mm)	72	100	100	100	100				94	94	87	100	7
3/8 in (9.5 mm)	48	100	100	100	100				90	90	83	97	7
#4 (4.75 mm)	6	45	77	98	96				65	65	58	72	7
#8 (2.36 mm)	1	5	17	72	87				37	37	32	42	5
#16 (1.18 mm)	1	1	7	51	71				27	27	23	31	4
#30 (.600 mm)	1	0	3	38	53				19	19	15	23	4
#50 (.300 mm)	1	0	3	30	30				14	14	10	18	4
#100 (.150 mm)	1	0	2	24	4				8	8	5	11	3
#200 (.075 mm)	0.5	0.2	1.5	20.5	1.0				6.3	6.3	4.3	8.3	2
AC Content %									5.8	5.8	5.4	6.2	0.4
Asphalt Additive, Anti-Strip %									0.5				

	°F (°C)	Required
Mix temperature @ discharge from mixer:	305 (152)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	290 (143)	
Laboratory mixing temperature:	325 (163)	
Laboratory compaction temperature:	300 (149)	

Tests on Asphalt Cement	Found
Specific Gravity @ 77 °F	1.0100

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Tests on Compressed Mixtures (@ Design AC)

	# Gyr.	% Density of Gmm	% Density Required
Nini	6	87.3	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	67	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	4	10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	30.7	30	min.	%
LA Abrasion	28	40	max.	%
Micro-Deval	15.3	N/A		%
Permeability	0.6	12.5	max.	10^{-5}cm/s
Sand Equivalent	51	40	min.	%
IOC	0.29			%
Gse	2.646			
Gsb	2.572			
Specimen Weight	4775			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
5.5	2.309	2.430	95.0	96.0 / 94.5 - 97.4	15.2	14.5 / 14.0	67.1	72 - 77
6.0	2.326	2.412	96.4		15.0		76.0	
6.5	2.345	2.394	98.0		14.8		86.5	

Dust Prop.
1.4
1.3
1.1

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 85.6 N/A min.
TSR 0.89 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 106.4 @ 5.8 % Asphalt Cement

Hamburg Rut Test Depth (mm) 5.60 12.50 max. @ 10,000 cycles

MEETS SPECIFICATION REQUIREMENTS PER SPECIAL PROVISION 708-26(a-f) 09

Comments:

Last Modified By: Smith, Jerry D. jsmith
(User Name and User ID)

Date: 3/5/2018
(mm/dd/yyyy)