Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 64-22 OK) Mat'l. Code: asco009
(Material Full Name and Material Code)

Binder - Recycled ID: B2
(Design Type and Design Type ID)

Millennial Asphalt P/S # m01104
(Producer/Supplier Name and Producer/Supplier Code)

S3pv0441800400
(Mix ID)

Millenial Asphalt,Inc. PLANT ID # m01104-01
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
#57 Rock	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	25
3/8" Chips	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	16
Man. Sand	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	25
Sand	Holliday Sand & Gravel Plant 17 (Broken Arrow, OK) P/S # m002097308	8
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25
B. H. Fines	Contractor / Project Site P/S # Contractor	1

Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, Lion Oil Co. (Muskogee, OK), m00511
(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-

Producer/Supplier:	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	Holliday Sand & Gravel Plant 17 (Broken Arrow, OK) P/S # m002097308	Contractor / Project Site P/S # Contractor	Contractor / Project Site P/S # Contractor							
Sieve Size	#57 Rock	3/8" Chips	Man. Sand	Sand	Fine R.A.P.	B. H. Fines			Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
1 in (25 mm)	100	100	100	100	100	100			100	100	100	100	0
3/4 in (19 mm)	87	100	100	100	100	100			97	97	90	100	7
1/2 in (12.5 mm)	55	100	100	100	97	100			88	88	81	95	7
3/8 in (9.5 mm)	18	99	100	100	92	100			77	77	70	84	7
#4 (4.75 mm)	2	30	99	98	65	100			55	55	48	62	7
#8 (2.36 mm)	2	4	78	86	44	100			40	40	35	45	5
#16 (1.18 mm)	2	2	44	63	32	100			26	26	22	30	4
#30 (.600 mm)	2	2	23	37	23	100			16	16	12	20	4
#50 (.300 mm)	2	2	15	15	16	100			11	11	7	15	4
#100 (.150 mm)	2	2	8	3	11	100			7	7	4	10	3
#200 (.075 mm)	1.3	1.3	5.0	0.5	7.9	100.0			4.8	4.8	2.8	6.8	2
AC Content %					5.0				4.8	4.8	4.4	5.2	0.4

	°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	88.1	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	70	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	2	10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	1.6	N/A		%
LA Abrasion	30	40	max.	%
Micro-Deval	24.3	N/A		%
Permeability	6.4	12.5	max.	10^{-5}cm/s
Sand Equivalent	87	40	min.	%
IOC	0.46			%
Gse	2.611			
Gsb	2.592			
Specimen Weight	4810			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
4.3	2.307	2.444	94.4		14.8		62.2	
4.8	2.329	2.426	96.0	96.0 / 94.5 - 97.4	14.5	13.5 / 13.0	72.4	70 - 75
5.3	2.341	2.409	97.2		14.5		80.7	

Dust Prop.	Dust Prop. Req.
1.2	0.6 - 1.6
1.1	
1.0	

ITS (PSI) 138.7 N/A min.
TSR 0.86 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 106.7 @ 4.8 % Asphalt Cement
3.5 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 2.78 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: 2/8/2018
(mm/dd/yyyy)