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)

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

S4pv0441702600
(Mix ID)

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

Aggregate	Producer/Supplier	% USED
3/4" Chips	Anchor Stone (Owasso, OK) P/S # m001156603	25
Mine Chat	Mine Chat @ Tri City Area P/S # MineChat	24
Scrns.	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	18
Man. Sand	Greenhill Materials Co. (Catoosa, OK) P/S # m001956605	22
Sand	Holliday Sand & Gravel Plant 17 (Broken Arrow, OK) P/S # m002097308	10
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:	Anchor Stone (Owasso, OK) P/S # m001156603	Mine Chat @ Tri City Area P/S # MineChat	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							
Sieve Size	3/4" Chips	Mine Chat	Scrns.	Man. Sand	Sand	B. H. Fines			Comb. Agg.	*JMF*	*Min.*	*Max.*	*% Tol. (±)*
3/4 in (19 mm)	100	100	100	100	100	100			100	***100***	*100*	*100*	*0*
1/2 in (12.5 mm)	78	100	100	100	100	100			95	***95***	*88*	*100*	*7*
3/8 in (9.5 mm)	54	100	100	100	100	100			89	***89***	*82*	*96*	*7*
#4 (4.75 mm)	15	45	92	99	99	100			64	***64***	*57*	*71*	*7*
#8 (2.36 mm)	2	7	63	79	89	100			41	***41***	*36*	*46*	*5*
#16 (1.18 mm)	2	3	41	46	70	100			27	***27***	*23*	*31*	*4*
#30 (.600 mm)	2	1	30	24	47	100			17	***17***	*13*	*21*	*4*
#50 (.300 mm)	2	1	24	10	20	100			10	***10***	*6*	*14*	*4*
#100 (.150 mm)	2	1	21	5	2	100			7	***7***	*4*	*10*	*3*
#200 (.075 mm)	0.9	1.3	15.5	3.5	0.5	100.0			5.1	***5.1***	*3.1*	*7.1*	*2*
AC Content %									5.3	***5.3***	*4.9*	*5.7*	*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	87.0	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	2	10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	41.4	30	min.	%
LA Abrasion	25	40	max.	%
Micro-Deval	19.1	N/A		%
Permeability	7	12.5	max.	10^{-5}cm/s
Sand Equivalent	79	40	min.	%
IOC	0.25			%
Gse	2.618			
Gsb	2.583			
Specimen Weight	4700			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
5.0	2.311	2.425	95.3	96.0 / 94.5 - 97.4	15.0	14.5 / 14.0	68.7	72 - 77
5.5	2.322	2.407	96.5		15.0		76.7	
6.0	2.337	2.390	97.8		15.0		85.3	

Dust Prop.	Dust Prop. Req.
1.1	0.6 - 1.6
1.0	
0.9	

ITS (PSI) 110.2 N/A min.
TSR 0.91 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 106.2 @ 5.3 % Asphalt Cement

Hamburg Rut Test Depth (mm) 5.17 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: 8/3/2017
(mm/dd/yyyy)