Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 76-28 OK) Mat'l. Code: asco010
(Material Full Name and Material Code)

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

APAC-Oklahoma P/S # m00552
(Producer/Supplier Name and Producer/Supplier Code)

S4qc0061500900
(Mix ID)

APAC Central #04054 (Vinita, OK)- 400TPH PLANT ID # m00552-11
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
#67 Rock	APAC-Central #020 (J-6 Quarry @ Vinita, OK) P/S # m001241802	15
Man. Sand	APAC-Central #020 (J-6 Quarry @ Vinita, OK) P/S # m001241802	23
Scrns.	APAC-Central #020 (J-6 Quarry @ Vinita, OK) P/S # m001241802	30
Mine Chat	Mine Chat @ Tri City Area P/S # MineChat	17
Sand	Holliday Sand & Gravel (Bixby, OK) P/S # m001997212	15

Asphalt Additive, Anti-Strip EVOTHERM M1 addi003 MWV Specialty Chemicals, Asph. Innov. m00941
(Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)

Asphalt Cement: Asphaltic Cement Type PG 76-28 E, acem008, Lion Oil (Muskogee, OK), m00332
(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:	APAC-Central #020 (J-6 Quarry @ Vinita, OK) P/S # m001241802	APAC-Central #020 (J-6 Quarry @ Vinita, OK) P/S # m001241802	APAC-Central #020 (J-6 Quarry @ Vinita, OK) P/S # m001241802	Mine Chat @ Tri City Area P/S # MineChat	Holliday Sand & Gravel (Bixby, OK) P/S # m001997212							
Sieve Size	**#67 Rock**	**Man. Sand**	**Scrns.**	**Mine Chat**	**Sand**				**Comb. Agg.**	***JMF***	***Min.***	***Max.***	***% Tol. (±)***
3/4 in (19 mm)	100	100	100	100	100				100	***100***	*100*	*100*	*0*
1/2 in (12.5 mm)	68	100	100	100	100				95	***95***	*88*	*100*	*7*
3/8 in (9.5 mm)	36	100	100	99	100				90	***90***	*83*	*97*	*7*
#4 (4.75 mm)	4	95	79	37	99				67	***67***	*60*	*74*	*7*
#8 (2.36 mm)	3	53	54	6	93				44	***44***	*39*	*49*	*5*
#16 (1.18 mm)	2	30	39	3	73				30	***30***	*26*	*34*	*4*
#30 (.600 mm)	2	18	29	2	46				20	***20***	*16*	*24*	*4*
#50 (.300 mm)	2	9	22	1	17				12	***12***	*8*	*16*	*4*
#100 (.150 mm)	2	5	18	1	2				7	***7***	*4*	*10*	*3*
#200 (.075 mm)	1.3	3.7	13.7	0.9	0.5				5.4	***5.4***	*3.4*	*7.4*	*2*
AC Content %									5.2	***5.2***	*4.8*	*5.6*	*0.4*
Asphalt Additive, Anti-Strip %									0.5				

	°F (°C)	Required
Mix temperature @ discharge from mixer:	325 (163)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	305 (152)	
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	8	87.8	85.5 - 89.0
Ndes	80		96.0

Tests on Aggregates		Required		Units
Durability Index	64	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	0	10	max.	%
Fractured Faces	100/100	98/95	min.	%
Insoluble Residue	45.1	40	min.	%
LA Abrasion	26.3	40	max.	%
Micro-Deval	19.3	25	max.	%
Permeability	5.2	12.5	max.	10^{-5}cm/s
Sand Equivalent	79	50	min.	%
IOC	0.29			%
Gse	2.626			
Gsb	2.590			
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
4.8	2.304	2.439	94.5		15.3		64.1	
5.3	2.328	2.421	96.2	96.0 / 94.5 - 97.4	14.9	14.5 / 14.0	74.5	72 - 77
5.8	2.352	2.403	97.9		14.5		85.5	

Dust Prop.
1.3
1.1
1.0

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 125 75 min.
TSR 0.87 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 106.6 @ 5.2 % Asphalt Cement

Hamburg Rut Test Depth (mm) 7.90 12.50 max. @ 20,000 cycles

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

Comments:

Last Modified By: Schratwieser, Edward P. eschratw
(User Name and User ID)

Date: 7/9/2015
(mm/dd/yyyy)