Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 70-28 OK) Mat'l. Code: asco011
(Material Full Name and Material Code)

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

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

S4qc0061400900
(Mix ID)

APAC Central #04055 (Portable #245 Tulsa)- 400TPH PLANT ID # m00552-012
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
#67 Rock	APAC-Central #066 @ Pawhuska, OK P/S # m001505703	13
1/2" Chips	APAC-Central #066 @ Pawhuska, OK P/S # m001505703	18
Man. Sand	APAC-Central #066 @ Pawhuska, OK P/S # m001505703	34
Sand	Sober Sand Co. (Ponca City, OK) P/S # m005373601	10
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25

Asphalt Cement: Asphaltic Cement Type PG 70-28 OK, acem002, 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-

Sieve Size	Producer/Supplier: APAC-Central #066 @ Pawhuska, OK P/S # m001505703 — #67 Rock	APAC-Central #066 @ Pawhuska, OK P/S # m001505703 — 1/2" Chips	APAC-Central #066 @ Pawhuska, OK P/S # m001505703 — Man. Sand	Sober Sand Co. (Ponca City, OK) P/S # m005373601 — Sand	Contractor / Project Site P/S # Contractor — Fine R.A.P.				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)	70	100	100	100	100				96	**96**	89	100	7
3/8 in (9.5 mm)	41	88	100	100	97				89	**89**	82	96	7
#4 (4.75 mm)	6	8	94	96	76				63	**63**	56	70	7
#8 (2.36 mm)	2	1	57	84	56				42	**42**	37	47	5
#16 (1.18 mm)	1	1	30	65	41				27	**27**	23	31	4
#30 (.600 mm)	1	1	16	45	31				18	**18**	14	22	4
#50 (.300 mm)	1	1	9	22	22				11	**11**	7	15	4
#100 (.150 mm)	1	1	6	4	15				7	**7**	4	10	3
#200 (.075 mm)	1.4	0.5	5.0	0.9	13.6				5.5	**5.5**	3.5	7.5	2
AC Content %					5.0				5.1	**5.1**	4.7	5.5	0.4

	°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	7	87.1	85.5 - 90.5
Ndes	65		96.0

Tests on Aggregates		Required		Units
Durability Index	74	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated		10	max.	%
Fractured Faces	100/100	95/90	min.	%
Insoluble Residue		N/A		%
LA Abrasion	24	40	max.	%
Micro-Deval	15.3	N/A		%
Permeability	7.4	12.5	max.	10^{-5}cm/s
Sand Equivalent	72	45	min.	%
IOC	0.34			%
Gse	2.675			
Gsb	2.631			
Specimen Weight	4750			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	2.349	2.479	94.8	96.0 / 94.5 - 97.4	15.0	14.5 / 14.0	65.3	72 - 77
5.3	2.380	2.460	96.7		14.3		76.9	
5.8	2.406	2.442	98.5		13.9		89.2	

Dust Prop.
1.3
1.2
1.1

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 177.6 N/A min.

TSR 0.86 0.80 / 0.75 min. (Design / Field)

Compacted Wt. (lbs/sy/1" thick) = 108.6 @ 5.1 % Asphalt Cement

3.8 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 2.36 12.50 max. @ 15,000 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: 6/11/2014
(mm/dd/yyyy)