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)

S4qc0061480900
(Mix ID)

APAC-OK (Pawhuska, OK) - 400TPH PLANT ID # m00552-01
(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, 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-

Producer/Supplier:	APAC-Central #066 @ Pawhuska, OK P/S # m001505703	APAC-Central #066 @ Pawhuska, OK P/S # m001505703	APAC-Central #066 @ Pawhuska, OK P/S # m001505703	Sober Sand Co. (Ponca City, OK) P/S # m005373601	Contractor / Project Site P/S # Contractor								
Sieve Size	#67 Rock	1/2" Chips	Man. Sand	Sand	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		15.0		65.3	
5.3	2.380	2.460	96.7	96.0 / 94.5 - 97.4	14.3	14.5 / 14.0	76.9	72 - 77
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: 12/1/2016
(mm/dd/yyyy)