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)

APAC Central - (Arkhola S & G Asphalt) P/S # m00553
(Producer/Supplier Name and Producer/Supplier Code)

S4c00931800600
(Mix ID)

APAC - Central (Muskogee, OK) Formerly Glover PLANT ID # m00553-09
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
#67 Rock	APAC-Central #017 (Okay, OK) P/S # m001337302	20
3/8" Chips	APAC-Central #016 (Roberts Quarry @ Zeb, OK) P/S # m001301102	20
Man. Sand	APAC-Central #016 (Roberts Quarry @ Zeb, OK) P/S # m001301102	35
Scrns.	APAC-Central #017 (Okay, OK) P/S # m001337302	15
Sand	APAC - Arkhola Muskogee Sand Plant P/S # m001315103	10

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:	APAC-Central #017 (Okay, OK) P/S # m001337302	APAC-Central #016 (Roberts Quarry @ Zeb, OK) P/S # m001301102	APAC-Central #016 (Roberts Quarry @ Zeb, OK) P/S # m001301102	APAC-Central #017 (Okay, OK) P/S # m001337302	APAC - Arkhola Muskogee Sand Plant P/S # m001315103								
Sieve Size	#67 Rock	3/8" Chips	Man. Sand	Scrns.	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)	70	100	100	100	100				94	94	87	100	7
3/8 in (9.5 mm)	34	93	100	100	100				85	85	78	92	7
#4 (4.75 mm)	4	29	97	92	99				64	64	57	71	7
#8 (2.36 mm)	4	6	75	62	92				47	47	42	52	5
#16 (1.18 mm)	3	4	49	39	75				32	32	28	36	4
#30 (.600 mm)	3	3	33	27	46				21	21	17	25	4
#50 (.300 mm)	2	3	21	22	9				13	13	9	17	4
#100 (.150 mm)	2	2	12	17	1				8	8	5	11	3
#200 (.075 mm)	2.0	2.1	8.0	11.0	0.5				5.3	5.3	3.3	7.3	2
AC Content %									5.5	5.5	5.1	5.9	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	86.1	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	51	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	0	10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	34.4	30	min.	%
LA Abrasion	25.3	40	max.	%
Micro-Deval	19.7	N/A		%
Permeability	0	12.5	max.	10^{-5}cm/s
Sand Equivalent	75	40	min.	%
IOC	0.52			%
Gse	2.667			
Gsb	2.598			
Specimen Weight	4770			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	2.330	2.465	94.5	96.0 / 94.5 - 97.4	14.8	14.5 / 14.0	62.8	72 - 77
5.5	2.347	2.446	96.0		14.6		72.6	
6.0	2.365	2.428	97.4		14.4		81.9	

Dust Prop.
1.3
1.2
1.0

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 121.1 N/A min.
TSR 0.80 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 107.6 @ 5.5 % Asphalt Cement

Hamburg Rut Test Depth (mm) 7.95 12.50 max. @ 10,000 cycles

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

Comments: Similar to S4qc0021500900 (Plant ID Change)

Last Modified By: McComack, Hunter J. hmccomac
(User Name and User ID)

Date: 6/13/2018
(mm/dd/yyyy)