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)

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

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

S4c00931801400
(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 #016 (Roberts Quarry @ Zeb, OK) P/S # m001301102	18
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	36
Sand	Arkhola S & G (Muskogee, OK) P/S # m001315103	11
Fine R.A.P.	Contractor / Project Site P/S # Contractor	15

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-

Sieve Size	#67 Rock	3/8" Chips	Man. Sand	Sand	Fine R.A.P.				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
Producer/Supplier:	APAC-Central #016 (Roberts Quarry @ Zeb, OK) P/S # m001301102	APAC-Central #016 (Roberts Quarry @ Zeb, OK) P/S # m001301102	APAC-Central #016 (Roberts Quarry @ Zeb, OK) P/S # m001301102	Arkhola S & G (Muskogee, OK) P/S # m001315103	Contractor / Project Site P/S # Contractor								
3/4 in (19 mm)	100	100	100	100	100				100	100	100	100	0
1/2 in (12.5 mm)	66	100	100	100	100				94	94	87	100	7
3/8 in (9.5 mm)	36	97	100	100	99				88	88	81	95	7
#4 (4.75 mm)	7	27	98	99	76				64	64	57	71	7
#8 (2.36 mm)	4	9	72	92	53				47	47	42	52	5
#16 (1.18 mm)	3	6	47	74	38				33	33	29	37	4
#30 (.600 mm)	3	5	30	43	28				21	21	17	25	4
#50 (.300 mm)	3	4	18	11	19				12	12	8	16	4
#100 (.150 mm)	2	4	10	3	13				7	7	4	10	3
#200 (.075 mm)	2.0	3.4	9.4	1.7	9.1				6.0	6.0	4.0	8.0	2
AC Content %					4.7				5.2	5.2	4.8	5.6	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	87.4	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	4.1	N/A		%
LA Abrasion	25.3	40	max.	%
Micro-Deval	19.7	N/A		%
Permeability	5.9	12.5	max.	10^{-5}cm/s
Sand Equivalent	72	40	min.	%
IOC	0.32			%
Gse	2.688			
Gsb	2.630			
Specimen Weight	4825			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
4.7	2.348	2.493	94.2	96.0 / 94.5 - 97.4	14.9	14.5 / 14.0	61.1	72 - 77
5.2	2.372	2.474	95.9		14.5		71.7	
5.7	2.410	2.455	98.2		13.6		86.8	

Dust Prop.
1.5
1.4
1.2

Dust Prop. Req.
0.6 - 1.6

ITS (PSI) 111.7 N/A min.
TSR 0.95 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 108.8 @ 5.2 % Asphalt Cement
4.5 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 2.30 #N/A

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

Comments:

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

Date: 9/12/2018
(mm/dd/yyyy)