Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 64-22 OK) Mat'l. Code: asco009
(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)

S3qc0061300721
(Mix ID)

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

Aggregate	Producer/Supplier	% USED
#57 Rock	APAC-Central #020 (J-6 Quarry @ Vinita, OK) P/S # m001241802	20
#67 Rock	APAC-Central #020 (J-6 Quarry @ Vinita, OK) P/S # m001241802	17
Man. Sand	APAC-Central #020 (J-6 Quarry @ Vinita, OK) P/S # m001241802	26
Sand	Holliday Sand & Gravel (Bixby, OK) P/S # m001997212	12
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25

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 #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	Holliday Sand & Gravel (Bixby, OK) P/S # m001997212	Contractor / Project Site P/S # Contractor									
Sieve Size	#57 Rock	#67 Rock	Man. Sand	Sand	Fine R.A.P.				Comb. Agg.	*JMF*	*Min.*	*Max.*	*% Tol. (±)*	
1 in (25 mm)	100	100	100	100	100				100	***100***	*100*	*100*	*0*	
3/4 in (19 mm)	79	100	100	100	100				96	***98***	*91*	*100*	*7*	x
1/2 in (12.5 mm)	39	67	100	100	97				81	***83***	*76*	*90*	*7*	x
3/8 in (9.5 mm)	19	35	100	100	92				71	***73***	*66*	*80*	*7*	x
#4 (4.75 mm)	4	4	93	99	70				55	***57***	*50*	*64*	*7*	x
#8 (2.36 mm)	3	3	49	88	50				37	***39***	*34*	*44*	*5*	x
#16 (1.18 mm)	3	2	29	68	38				26	***28***	*24*	*32*	*4*	x
#30 (.600 mm)	2	2	17	42	30				18	***20***	*16*	*24*	*4*	x
#50 (.300 mm)	2	2	8	16	23				10	***12***	*8*	*16*	*4*	x
#100 (.150 mm)	2	2	6	2	16				7	***9***	*6*	*12*	*3*	x
#200 (.075 mm)	1.7	1.4	4.2	0.4	10.7				4.4	***6.2***	*4.2*	*8.2*	*2*	x
AC Content %					5.2				4.4	***4.4***	*4.0*	*4.8*	*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	88.4	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	64	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated		10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	18.4	N/A		%
LA Abrasion	26.3	40	max.	%
Micro-Deval	19.3	N/A		%
Permeability	6.5	12.5	max.	10^{-5}cm/s
Sand Equivalent	78	40	min.	%
IOC	0.28			%
Gse	2.627			
Gsb	2.598			
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
4.1	2.325	2.465	94.3	96.0 / 94.5 - 97.4	14.2	13.5 / 13.0	59.9	70 - 75
4.6	2.359	2.447	96.4		13.4		73.1	
5.1	2.365	2.429	97.4		13.6		80.9	

Dust Prop.
1.2
1.0
0.9

Dust Prop. Req.
0.6 - 1.6

ITS (PSI) 181.3 N/A min.
TSR 0.97 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 108.0 @ 4.4 % Asphalt Cement
3.1 % New Asphalt Cement

x 1st JMF Revision

Hamburg Rut Test Depth (mm) 2.43 12.50 max. @ 10,000 cycles

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

Comments:
CORRECTED - Bin Split Percentages on the Man Sand and Natural Sand were reversed
CORRECTED - Gradation on the Man Sand. ; REVISED (GRAD.) Effective 1/19/15 per contractor's request.

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

Date: 1/20/2015
(mm/dd/yyyy)