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)

S4c00931800900
(Mix ID)

APAC - Central (Mcalester, OK) Formerly Glover PLANT ID # m00553-07
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Martin-Marietta (Mill Creek, OK) P/S # m002303502	25
3/8" Chips	Dolese Co (Hartshorne, OK) P/S # m002756101	15
Man. Sand	Martin-Marietta (Mill Creek, OK) P/S # m002303502	15
Scrns.	Dolese Co (Hartshorne, OK) P/S # m002756101	30
Sand	Muskogee Sand - West Plant (Muskogee, OK) P/S # m007067309	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	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Dolese Co (Hartshorne, OK) P/S # m002756101	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Dolese Co (Hartshorne, OK) P/S # m002756101	Muskogee Sand - West Plant (Muskogee, OK) P/S # m007067309				Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
	5/8" Chips	3/8" Chips	Man. Sand	Scrns.	Sand								
3/4 in (19 mm)	100	100	100	100	100				100	**100**	100	100	0
1/2 in (12.5 mm)	78	100	100	100	100				95	**95**	88	100	7
3/8 in (9.5 mm)	48	94	100	100	100				86	**86**	79	93	7
#4 (4.75 mm)	6	16	99	100	99				64	**64**	57	71	7
#8 (2.36 mm)	2	3	82	62	96				46	**46**	41	51	5
#16 (1.18 mm)	2	2	53	38	89				34	**34**	30	38	4
#30 (.600 mm)	1	2	29	26	71				23	**23**	19	27	4
#50 (.300 mm)	1	2	12	19	31				13	**13**	9	17	4
#100 (.150 mm)	1	2	4	14	4				6	**6**	3	9	3
#200 (.075 mm)	1.0	1.1	1.8	10.2	0.6				3.8	**3.8**	1.8	5.8	2
AC Content %									5.1	**5.1**	4.7	5.5	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	89.2	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	76	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	0	10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	55.9	30	min.	%
LA Abrasion	31	40	max.	%
Micro-Deval	12.6	N/A		%
Permeability	0.5	12.5	max.	10^{-5}cm/s
Sand Equivalent	81	40	min.	%
IOC	0.49			%
Gse	2.660			
Gsb	2.620			
Specimen Weight	4795			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.8	2.350	2.467	95.3	Design / Field	14.6	Design / Field	67.8	
5.3	2.363	2.448	96.5	96.0 / 94.5 - 97.4	14.6	14.5 / 14.0	76.0	72 - 77
5.8	2.380	2.430	97.9		14.4		85.4	

Dust Prop.	Dust Prop. Req.
0.9	
0.8	0.6 - 1.6
0.7	

ITS (PSI) 142 N/A min.
TSR 0.83 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 108.0 @ 5.1 % Asphalt Cement

Hamburg Rut Test Depth (mm) 1.89 12.50 max. @ 10,000 cycles

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

Comments: Similar to S4pv0261700900 (Plant and Producer ID Change)(*P/S Change: Glover to APAC*)

Last Modified By: Vivanco, David dvivanco
(User Name and User ID)

Date: 6/14/2018
(mm/dd/yyyy)