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)

Quapaw Co P/S # m00342
(Producer/Supplier Name and Producer/Supplier Code)

S4pv0261380500
(Mix ID)

Quapaw Co (Drumright, OK) - 300TPH PLANT ID # m00342-01
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Quapaw Co (Drumright, OK) P/S # m002781901	33
Mine Chat	Mine Chat @ Tri City Area P/S # MineChat	22
Coarse Scrns.	Quapaw Co (Drumright, OK) P/S # m002781901	15
Fine Scrns.	Quapaw Co (Drumright, OK) P/S # m002781901	15
Sand	Quapaw Co (Drumright, OK) P/S # m002781901	15

Asphalt Cement: Asphaltic Cement Type PG 64-22 OK, acem003, 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:	Quapaw Co (Drumright, OK) P/S # m002781901	Mine Chat @ Tri City Area P/S # MineChat	Quapaw Co (Drumright, OK) P/S # m002781901	Quapaw Co (Drumright, OK) P/S # m002781901	Quapaw Co (Drumright, OK) P/S # m002781901								
Sieve Size	5/8" Chips	Mine Chat	Coarse Scrns.	Fine 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)	88	100	100	100	100				96	96	89	100	7
3/8 in (9.5 mm)	59	100	100	100	100				86	86	79	93	7
#4 (4.75 mm)	10	34	98	99	100				55	55	48	62	7
#8 (2.36 mm)	3	7	55	67	100				36	36	31	41	5
#16 (1.18 mm)	2	3	20	41	100				25	25	21	29	4
#30 (.600 mm)	2	1	13	30	96				22	22	18	26	4
#50 (.300 mm)	2	1	10	24	56				14	14	10	18	4
#100 (.150 mm)	2	1	9	20	10				7	7	4	10	3
#200 (.075 mm)	1.6	0.6	7.4	14.8	2.0				4.3	4.3	2.3	6.3	2
AC Content %									4.8	4.8	4.4	5.2	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	88.8	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates		Required		Units
Durability Index	77	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated	0	10	max.	%
Fractured Faces	100/100	85/80	min.	%
Insoluble Residue	30.5	30	min.	%
LA Abrasion	22.3	40	max.	%
Micro-Deval	14	N/A		%
Permeability	4.8	12.5	max.	10^{-5}cm/s
Sand Equivalent	71	40	min.	%
Gse	2.745			
Gsb	2.710			
Specimen Weight	4950			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	2.434	2.536	96.0		14.5		72.4	
5.3	2.447	2.516	97.3	96.0 / 94.5 - 97.4	14.5	14.5 / 14.0	81.4	72 - 77
5.8	2.465	2.496	98.8		14.3		91.6	

Dust Prop.
1.0
0.9
0.8

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 182.1 N/A min.
TSR 0.82 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 111.6 @ 4.8 % Asphalt Cement

Hamburg Rut Test Depth (mm) 1.71 12.50 max. @ 10,000 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: 3/4/2015
(mm/dd/yyyy)