Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S4 (PG 70-28 OK) Mat'l. Code: asco011
(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)

S4pv0261290900
(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	25
Mine Chat	Mine Chat @ Tri City Area P/S # MineChat	28
Fine Scrns.	Quapaw Co (Drumright, OK) P/S # m002781901	32
Sand	Quapaw Co (Drumright, OK) P/S # m002781901	15

Asphalt Cement: Asphaltic Cement Type PG 70-28 OK, acem002, 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									
Sieve Size	**5/8" Chips**	**Mine Chat**	**Fine Scrns.**	**Sand**					**Comb. Agg.**	***JMF***	***Min.***	***Max.***	***% Tol. (±)***
3/4 in (19 mm)	100	100	100	100					100	***100***	*100*	*100*	*0*
1/2 in (12.5 mm)	86	100	100	100					97	***97***	*90*	*100*	*7*
3/8 in (9.5 mm)	52	99	100	100					88	***88***	*81*	*95*	*7*
#4 (4.75 mm)	13	39	99	100					61	***61***	*54*	*68*	*7*
#8 (2.36 mm)	4	8	70	100					41	***41***	*36*	*46*	*5*
#16 (1.18 mm)	4	4	41	99					30	***30***	*26*	*34*	*4*
#30 (.600 mm)	4	2	28	93					24	***24***	*20*	*28*	*4*
#50 (.300 mm)	3	1	22	53					16	***16***	*12*	*20*	*4*
#100 (.150 mm)	2	1	17	11					8	***8***	*5*	*11*	*3*
#200 (.075 mm)	1.5	0.8	13.1	2.8					5.2	***5.2***	*3.2*	*7.2*	*2*
AC Content %									4.8	***4.8***	*4.4*	*5.2*	*0.4*

	°F (°C)	Required
Mix temperature @ discharge from mixer:	325 (163)	± 20 °F (± 10 °C)
Optimum roadway compaction temperature:	305 (152)	
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	7	87.5	85.5 - 90.5
Ndes	65		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	95/90	min.	%
Insoluble Residue	41.5	40	min.	%
LA Abrasion	22.3	40	max.	%
Micro-Deval	14	N/A		%
Permeability	0.5	12.5	max.	10^{-5}cm/s
Sand Equivalent	68	45	min.	%
Gse	2.734			
Gsb	2.700			
Specimen Weight	4930			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	2.424	2.527	95.9	96.0 / 94.5 - 97.4	14.5	14.5 / 14.0	71.7	72 - 77
5.3	2.438	2.507	97.2		14.5		80.7	
5.8	2.457	2.488	98.8		14.3		91.6	

Dust Prop.
1.2
1.1
1.0

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 165.2 N/A min.
TSR 0.81 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 111.2 @ 4.8 % Asphalt Cement

Hamburg Rut Test Depth (mm) 2.19 12.50 max. @ 15,000 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)