Version: V03.40

Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 70-28 OK) Mat'l. Code: asco008
(Material Full Name and Material Code)

Binder ID: B1
(Design Type and Design Type ID)

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

S3pv0261390800
(Mix ID)

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

Aggregate	Producer/Supplier	% USED
1 1/2" Rock	Quapaw Co (Drumright, OK) P/S # m002781901	20
3/8" Chips	Quapaw Co (Drumright, OK) P/S # m002781901	20
Coarse Scrns.	Quapaw Co (Drumright, OK) P/S # m002781901	30
Fine Scrns.	Quapaw Co (Drumright, OK) P/S # m002781901	20
Sand	Quapaw Co (Drumright, OK) P/S # m002781901	10

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	Quapaw Co (Drumright, OK) P/S # m002781901	Quapaw Co (Drumright, OK) P/S # m002781901	Quapaw Co (Drumright, OK) P/S # m002781901	Quapaw Co (Drumright, OK) P/S # m002781901								
Sieve Size	**1 1/2" Rock**	**3/8" Chips**	**Coarse Scrns.**	**Fine Scrns.**	**Sand**				**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)	78	100	100	100	100				96	***96***	*89*	*100*	*7*
1/2 in (12.5 mm)	41	100	100	100	100				88	***88***	*81*	*95*	*7*
3/8 in (9.5 mm)	25	98	100	100	100				85	***85***	*78*	*92*	*7*
#4 (4.75 mm)	7	22	98	99	100				65	***65***	*58*	*72*	*7*
#8 (2.36 mm)	3	2	55	67	100				41	***41***	*36*	*46*	*5*
#16 (1.18 mm)	2	1	20	41	100				25	***25***	*21*	*29*	*4*
#30 (.600 mm)	2	1	13	30	96				20	***20***	*16*	*24*	*4*
#50 (.300 mm)	2	1	10	24	56				14	***14***	*10*	*18*	*4*
#100 (.150 mm)	1	1	9	20	10				8	***8***	*5*	*11*	*3*
#200 (.075 mm)	1.2	0.9	7.4	14.8	2.0				5.8	***5.8***	*3.8*	*7.8*	*2*
AC Content %									4.6	***4.6***	*4.2*	*5.0*	*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	87.7	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		N/A		%
LA Abrasion	20.7	40	max.	%
Micro-Deval	14	N/A		%
Permeability	4	12.5	max.	10^{-5}cm/s
Sand Equivalent	60	45	min.	%
Gse	2.799			
Gsb	2.743			
Specimen Weight	5060			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required Design / Field	% VMA	% VMA Required Design / Field	% VFA	% VFA Required
4.3	2.478	2.601	95.3	96.0 / 94.5 - 97.4	13.5	13.5 / 13.0	65.2	70 - 75
4.8	2.486	2.580	96.4		13.7		73.7	
5.3	2.498	2.559	97.6		13.8		82.6	

Dust Prop.
1.6
1.4
1.3

Dust Prop. Req. 0.6 - 1.6

ITS (PSI) 131.9 N/A min.
TSR 0.86 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 113.9 @ 4.6 % Asphalt Cement

Hamburg Rut Test Depth (mm) 5.21 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)