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)

Binder - Recycled ID: B2
(Design Type and Design Type ID)

APAC-Oklahoma P/S # m00552
(Producer/Supplier Name and Producer/Supplier Code)

S4qc0061293800
(Mix ID)

APAC Central #04053 (Tulsa, OK) - 600TPH PLANT ID # m00552-07
(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
3/4" Chips	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	16
1/2" Chips	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	15
Scrns.	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	10
Man. Sand	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	32
Sand	Holliday Sand & Gravel (Bixby, OK) P/S # m001997212	12
Fine R.A.P.	Contractor / Project Site P/S # Contractor	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:	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	Holliday Sand & Gravel (Bixby, OK) P/S # m001997212	Contractor / Project Site P/S # Contractor							
Sieve Size	3/4" Chips	1/2" Chips	Scrns.	Man. Sand	Sand	Fine R.A.P.			Comb. Agg.	*JMF*	*Min.*	*Max.*	*% Tol. (±)*
3/4 in (19 mm)	100	100	100	100	100	100			100	***100***	*100*	*100*	*0*
1/2 in (12.5 mm)	62	100	100	100	100	97			93	***93***	*86*	*100*	*7*
3/8 in (9.5 mm)	33	91	100	100	100	90			86	***86***	*79*	*93*	*7*
#4 (4.75 mm)	5	22	81	92	98	69			64	***64***	*57*	*71*	*7*
#8 (2.36 mm)	3	4	56	57	89	50			43	***43***	*38*	*48*	*5*
#16 (1.18 mm)	3	3	38	30	68	38			28	***28***	*24*	*32*	*4*
#30 (.600 mm)	3	3	28	17	40	29			18	***18***	*14*	*22*	*4*
#50 (.300 mm)	2	3	22	10	12	20			11	***11***	*7*	*15*	*4*
#100 (.150 mm)	2	2	17	7	1	14			7	***7***	*4*	*10*	*3*
#200 (.075 mm)	2.1	2.2	13.9	5.9	0.4	9.7			5.4	***5.4***	*3.4*	*7.4*	*2*
AC Content %						5.2			5.2	***5.2***	*4.8*	*5.6*	*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	87.3	85.5 - 90.5
Ndes	65		96.0

Tests on Aggregates		Required		Units
Durability Index	71	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated		10	max.	%
Fractured Faces	100/100	95/90	min.	%
Insoluble Residue	0.3	N/A		%
LA Abrasion	29.7	40	max.	%
Micro-Deval	16.5	N/A		%
Permeability	5.5	12.5	max.	10^{-5}cm/s
Sand Equivalent	72	45	min.	%
IOC	0.25			%
Gse	2.671			
Gsb	2.632			
Specimen Weight	4700			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.8	2.335	2.476	94.3	Design / Field	15.5	Design / Field	63.2	
5.3	2.363	2.457	96.2	96.0 / 94.5 - 97.4	15.0	14.5 / 14.0	74.7	72 - 77
5.8	2.377	2.438	97.5		14.9		83.2	

Dust Prop.	Dust Prop. Req.
1.3	0.6 - 1.6
1.1	
1.0	

ITS (PSI) 114.7 N/A min.
TSR 0.81 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 108.2 @ 5.2 % Asphalt Cement
4.4 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 8.32 12.50 max. @ 15,000 cycles

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

Comments: CORRECTED (Aggregate source for APAC-Central (7204) changed to APAC-Central (7201)

Last Modified By: Williams, Bobby Ray bwilli01
(User Name and User ID)

Date: 12/6/2016
(mm/dd/yyyy)