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)

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

S4qc0061284100
(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
Mine Chat	Mine Chat @ Tri City Area P/S # MineChat	29
Scrns.	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	30
Man. Sand	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	13
Sand	Holliday Sand & Gravel (Bixby, OK) P/S # m001997212	12

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	Mine Chat @ Tri City Area P/S # MineChat	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								
Sieve Size	3/4" Chips	Mine Chat	Scrns.	Man. Sand	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)	66	100	100	100	100				95	95	88	100	7
3/8 in (9.5 mm)	36	99	100	100	100				89	89	82	96	7
#4 (4.75 mm)	5	34	80	92	99				59	59	52	66	7
#8 (2.36 mm)	3	4	58	58	95				38	38	33	43	5
#16 (1.18 mm)	2	2	39	30	73				25	25	21	29	4
#30 (.600 mm)	2	1	28	16	48				17	17	13	21	4
#50 (.300 mm)	2	1	21	9	20				10	10	6	14	4
#100 (.150 mm)	2	1	16	5	2				6	6	3	9	3
#200 (.075 mm)	1.7	0.7	12.5	4.0	0.3				4.8	4.8	2.8	6.8	2
AC Content %									5.3	5.3	4.9	5.7	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	86.9	85.5 - 90.5
Ndes	65		96.0

Tests on Aggregates		Required		Units
Durability Index	69	40	min.	%
F.A.A. %U		N/A		%
Flat and Elongated		10	max.	%
Fractured Faces	100/100	95/90	min.	%
Insoluble Residue	46.4	40	min.	%
LA Abrasion	29.7	40	max.	%
Micro-Deval	16.5	N/A		%
Permeability	4.2	12.5	max.	10^{-5}cm/s
Sand Equivalent	77	45	min.	%
IOC	0.14			%
Gse	2.635			
Gsb	2.593			
Specimen Weight	4700			g

Tests on Compressed Mixtures

%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.8	2.308	2.446	94.4	Design / Field	15.3	Design	63.4	
5.3	2.334	2.428	96.1	96.0 / 94.5 - 97.4	14.8	14.5	73.6	72 - 77
5.8	2.355	2.410	97.7		14.4		84.0	

Dust Prop.	Dust Prop. Req.
1.1	0.6 - 1.6
1.0	
0.9	

ITS (PSI) 136.8 N/A min.
TSR 0.93 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 106.8 @ 5.3 % Asphalt Cement

Hamburg Rut Test Depth (mm) 5.26 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)