



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)

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

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

S4qc0061491100
 (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	14
1/2" Chips	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	15
Man. Sand	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	34
Sand	Holiday Sand & Gravel (Bixby, OK) P/S # m001997212	12
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25
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)		

Sieve Size	Producer/Supplier:					Comb. Agg.	Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-			
	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	Holiday Sand & Gravel (Bixby, OK) P/S # m001997212	Contractor / Project Site P/S # Contractor		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)	68	100	100	100	97	95	88	100	100	7
3/8 in (9.5 mm)	34	100	100	100	92	89	82	96	100	7
#4 (4.75 mm)	7	19	93	99	72	65	58	72	96	7
#8 (2.36 mm)	3	4	61	90	51	45	40	50	88	5
#16 (1.18 mm)	3	3	33	70	37	30	26	34	72	4
#30 (.600 mm)	3	3	18	43	27	19	15	23	65	4
#50 (.300 mm)	2	2	9	13	19	10	6	14	45	4
#100 (.150 mm)	2	2	5	2	13	6	3	9	30	3
#200 (.075 mm)	2.2	2.3	4.9	0.9	11.8	5.4	3.4	7.4	19	2
AC Content %					5.2	4.9	4.5	5.3	10	0.4

Mix temperature @ discharge from mixer: 305 (152) ± 20 °F (± 10 °C) **Required**
 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	88.4	85.5 - 91.5
Ndes	50		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	85/80 min. %
Insoluble Residue	2.5	N/A %
LA Abrasion	29.7	40 max. %
Micro-Deval	16.5	N/A %
Permeability	9.5	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	66	40 min. %
IOC	0.33	%
Gse	2.636	
Gsb	2.626	
Specimen Weight	4700	g

Tests on Compressed Mixtures								
%AC	Gmb	Gmm	% Density of Gmm	% Density Required	% VMA	% VMA Required	% VFA	% VFA Required
4.8	2.336	2.447	95.5	Design / Field	15.3	Design / Field	70.6	72 - 77
5.3	2.365	2.429	97.4	96.0 / 94.5 - 97.4	14.7	14.5 / 14.0	82.3	
5.8	2.376	2.411	98.5		14.8		89.9	

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

ITS (PSI) 154.2 N/A min.
TSR 0.87 0.80 / 0.75 min. (Design / Field)
Compacted Wt. (lbs/sy/1" thick) = 107.5 @ 4.9 % Asphalt Cement
 3.6 % New Asphalt Cement

Hamburg Rut Test Depth (mm) 2.48 12.50 max. @ 10,000 cycles
MEETS SPECIFICATION REQUIREMENTS PER SPECIAL PROVISION 708-26(a-f) 09

Comments: CORRECTED (Gradation on #16 sieve for Fine RAP)

Last Modified By: Williams, Bobby Ray bwilli01 Date: 12/6/2016
 (User Name and User ID) (mm/dd/yyyy)