Version: V03.40

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 (United Materials) P/S # m00869
(Producer/Supplier Name and Producer/Supplier Code)

S4c00931701000
(Mix ID)

APAC (United Materials) PLANT ID # m00869-01
(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	Holliday 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)

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	Holliday Sand & Gravel (Bixby, OK) P/S # m001997212	Contractor / Project Site P/S # Contractor								
Sieve Size	3/4" Chips	1/2" Chips	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	0
1/2 in (12.5 mm)	68	100	100	100	97				95	95	88	100	7
3/8 in (9.5 mm)	34	100	100	100	92				89	89	82	96	7
#4 (4.75 mm)	7	19	93	99	72				65	65	58	72	7
#8 (2.36 mm)	3	4	61	90	51				45	45	40	50	5
#16 (1.18 mm)	3	3	33	70	37				30	30	26	34	4
#30 (.600 mm)	3	3	18	43	27				19	19	15	23	4
#50 (.300 mm)	2	2	9	13	19				10	10	6	14	4
#100 (.150 mm)	2	2	5	2	13				6	6	3	9	3
#200 (.075 mm)	2.2	2.3	4.9	0.9	11.8				5.4	5.4	3.4	7.4	2
AC Content %					5.2				4.9	4.9	4.5	5.3	0.4

	°F (°C)	Required
Mix temperature @ discharge from mixer:	305 (152)	± 20 °F (± 10 °C)
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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-Oklahoma D.O.T. Materials-

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	
5.3	2.365	2.429	97.4	96.0 / 94.5 - 97.4	14.7	14.5 / 14.0	82.3	72 - 77
5.8	2.376	2.411	98.5		14.8		89.9	

Dust Prop.	Dust Prop. Req.
1.1	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: Similar to S4qc0061491100 (Plant ID Change)

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

Date: 4/4/2017
(mm/dd/yyyy)