



# Oklahoma Department of Transportation Mix Design Report

Asphalt Concrete, Type S3 (PG 64-22 OK) Mat'l. Code: asco009

Binder - Recycled ID: B2

(Material Full Name and Material Code)

(Design Type and Design Type ID)

APAC-Oklahoma P/S # m00552

S3qc0061491000

(Producer/Supplier Name and Producer/Supplier Code)

(Mix ID)

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

(Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
1" Rock	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	20
1/2" Chips	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	12
Man. Sand	APAC-Central, 46th St (NW pit Tulsa, OK) P/S # m001197201	34
Sand	Holliday Sand & Gravel (Bixby, OK) P/S # m001997212	9
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25
<b>Asphalt Cement:</b> Asphaltic Cement Type PG 64-22 OK, acem003, HollyFrontier (Catoosa, OK), m01028		
(Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

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	<div style="border: 2px solid blue; padding: 5px; color: blue; text-align: center;"> <b>Requires Form 93-E0</b>  <b>signed by the Department</b>  <b>for production use.</b>  <b>-Oklahoma D.O.T. Materials-</b> </div>			
	Sieve Size	1" Rock	1/2" Chips	Man. Sand	Sand	Fine R.A.P.	Comb. Agg.	JMF	Min.				
1 in (25 mm)	100	100	100	100	100	100	100	100	100	100	100	0	
3/4 in (19 mm)	91	100	100	100	100	100	98	98	91	100	7	7	
1/2 in (12.5 mm)	48	100	100	100	100	97	89	89	82	96	7	7	
3/8 in (9.5 mm)	25	100	100	100	100	92	83	83	76	90	7	7	
#4 (4.75 mm)	5	19	93	99	72	72	62	62	55	69	7	7	
#8 (2.36 mm)	2	4	61	90	51	51	42	42	37	47	5	5	
#16 (1.18 mm)	2	3	33	70	37	37	28	28	24	32	4	4	
#30 (.600 mm)	2	3	18	43	27	27	18	18	14	22	4	4	
#50 (.300 mm)	2	2	9	13	19	19	10	10	6	14	4	4	
#100 (.150 mm)	2	2	5	2	13	13	6	6	3	9	3	3	
#200 (.075 mm)	1.4	2.3	4.9	0.9	11.8	11.8	5.3	5.3	3.3	7.3	2	2	
AC Content %					5.2	5.2	4.5	4.5	4.1	4.9	0.4	0.4	

Mix temperature @ discharge from mixer: 305 (152) °F (93.3 °C) **Required** ± 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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**for production use.**  
**-Oklahoma D.O.T. Materials-**

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	7.4	12.5 max. 10 <sup>-5</sup> cm/s
Sand Equivalent	70	40 min. %
IOC	0.27	%
Gse	2.643	
Gsb	2.625	
Specimen Weight	4750	g

Tests on Compressed Mixtures (@ Design AC)			
	# Gyr.	% Density	
		of Gmm	% Density Required
Nini	6	88.6	85.5 - 91.5
Ndes	50		96.0

Tests on Compressed Mixtures						
%AC	% Gmm		% Density Required		% VMA	% VMA Required
	Gmb	Gmm	Design / Field	Design / Field		
4.3	2.361	2.471	95.5	96.0 / 94.5 - 97.4	13.9	13.5 / 13.0
4.8	2.378	2.453	96.9		13.8	77.5
5.3	2.402	2.434	98.7		13.3	70 - 75

ITS (PSI) 194.4 N/A min.  
 TSR 0.86 0.80 / 0.75 min. (Design / Field)  
 Compacted Wt. (lbs/sy/1" thick) = 108.4 @ 4.5 % Asphalt Cement  
 3.2 % New Asphalt Cement

Dust Prop.	Dust Prop. Req.
1.3	0.6 - 1.6
1.2	
1.0	

Hamburg Rut Test Depth (mm) 2.49 12.50 max. @ 10,000 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: 7/24/2015  
 (mm/dd/yyyy)