



# 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)  
 Tulsa Asphalt Co P/S # m00355  
 (Producer/Supplier Name and Producer/Supplier Code)  
 Tulsa Asphalt Co #2 (Tulsa, OK) 300TPH PLANT ID # m00355-02  
 (Plant Name and Plant ID)

Binder ID: B1  
 (Design Type and Design Type ID)  
 S4c00931500300  
 (Mix ID)

Aggregate	Producer/Supplier	% USED
3/4" Chips	Anchor Stone (Owasso, OK) P/S # m001156603	20
3/8" Chips	Anchor Stone (Owasso, OK) P/S # m001156603	19
Man. Sand	Anchor Stone (Owasso, OK) P/S # m001156603	30
Scrns.	Anchor Stone (Owasso, OK) P/S # m001156603	7
Sand	Anchor Stone (Jenks, OK) P/S # m008967235	8
B. H. Fines	Contractor / Project Site P/S # Contractor	1
Fine R.A.P.	Contractor / Project Site P/S # Contractor	15
<b>Asphalt Additive, Anti-Strip</b>	AD-HERE HP-PLUS addi003 ARR-MAZ Products, LP (Winter Haven, FL) m00070 (Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)	
<b>Asphalt Cement:</b>	Asphaltic Cement Type PG 64-22 OK, acem003, Asphalt Terminals and Transp LLC (Muskogee, OK), m00783 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)	

Producer/Supplier:	Anchor Stone (Owasso, OK) P/S # m001156603	Anchor Stone (Owasso, OK) P/S # m001156603	Anchor Stone (Owasso, OK) P/S # m001156603	Anchor Stone (Owasso, OK) P/S # m001156603	Anchor Stone (Jenks, OK) P/S # m008967235	Contractor / Project Site P/S # Contractor	Contractor / Project Site P/S # Contractor	Comb. Agg.	Tol. (%)			
	3/4" Chips	3/8" Chips	Man. Sand	Scrns.	Sand	B. H. Fines	Fine R.A.P.		JMF	Min.	Max.	(±)
	100	100	100	100	100	100	100	100	100	100	100	0
	77	100	100	100	100	100	100	95	95	88	100	7
	54	96	100	100	100	100	99	90	90	83	97	7
	16	29	93	96	97	100	87	65	65	58	72	7
	5	4	64	75	83	100	68	44	44	39	49	5
	4	2	37	55	63	100	53	30	30	26	34	4
	3	1	18	40	36	100	43	19	19	15	23	4
	3	1	8	31	11	100	33	12	12	8	16	4
	3	1	4	25	1	100	19	8	8	5	11	3
	1.9	0.4	3.0	20.4	0.4	100.0	12.7	5.7	5.7	3.7	7.7	2
AC Content %								5.5	5.5	5.1	5.9	0.4
Asphalt Additive, Anti-Strip %								0.5				

**Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials-**

**°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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Tests on Aggregates	Required	Units
Durability Index	67	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	0	10 max. %
Fractured Faces	100/100	85/80 min. %
Insoluble Residue	N/A	%
LA Abrasion	25	40 max. %
Micro-Deval	19.1	N/A %
Permeability	8.7	12.5 max. 10 <sup>-5</sup> cm/s
Sand Equivalent	73	40 min. %
IOC	0.22	%
Gse	2.653	
Gsb	2.586	
Specimen Weight	4700	g

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 Compressed Mixtures							
%AC	Gmb	Gmm	% Density		% VMA	% VMA Required	% VFA
			of Gmm	% Density Required			
5.0	2.306	2.453	94.0	Design / Field	15.3	Design / Field	60.8
5.5	2.337	2.435	96.0	96.0 / 94.5 - 97.4	14.6	14.5 / 14.0	72.6
6.0	2.355	2.417	97.4		14.4		81.9

**Dust Prop.**  
 1.4 **Dust Prop. Req.** 0.6 - 1.6  
 1.2  
 1.1

**ITS (PSI)** 117.3 N/A min.  
**TSR** 0.80 0.80 / 0.75 min. (Design / Field)  
**Compacted Wt. (lbs/sy/1" thick) =** 107.1 @ 5.5 % Asphalt Cement  
 4.7 % New Asphalt Cement

**Hamburg Rut Test Depth (mm)** 2.94 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:** 6/3/2015  
 (mm/dd/yyyy)