



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)
 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)

Insoluble ID: I1
 (Design Type and Design Type ID)
 S4c00931300800
 (Mix ID)

Aggregate	Producer/Supplier	% USED
#67 Rock	Anchor Stone (Owasso, OK) P/S # m001156603	9
3/4" Chips	Anchor Stone (Owasso, OK) P/S # m001156603	11
Mine Chat	Mine Chat @ Tri City Area P/S # MineChat	25
Man. Sand	Anchor Stone (Owasso, OK) P/S # m001156603	17
Scrns.	Anchor Stone (Owasso, OK) P/S # m001156603	22
Sand	Anchor Sand, Delaware Ave. (Jenks, OK) P/S # m001137217	15
B. H. Fines	Contractor / Project Site P/S # Contractor	1

Asphalt Additive, Anti-Strip	AD-HERE HP-PLUS addi003 ARR-MAZ Products, LP (Winter Haven, FL) m00070 (Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)
Asphalt Cement:	Asphaltic Cement Type PG 70-28 OK, acem002, 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	Mine Chat @ Tri City Area P/S # MineChat	Anchor Stone (Owasso, OK) P/S # m001156603	Anchor Stone (Owasso, OK) P/S # m001156603	Anchor Sand, Delaware Ave. (Jenks, OK) P/S # m001137217	Contractor / Project Site P/S # Contractor	<div style="border: 2px solid blue; padding: 5px; color: blue; text-align: center;"> Requires Form 93-E0 signed by the Department for production use. -Oklahoma D.O.T. Materials- </div>				
	#67 Rock	3/4" Chips	Mine Chat	Man. Sand	Scrns.	Sand	B. H. Fines					
Sieve Size								Comb. Agg.	JMF	Min.	Max.	% Tol. (±)
3/4 in (19 mm)	99	100	100	100	100	100	100	100	100	100	100	0
1/2 in (12.5 mm)	62	85	100	100	100	100	100	95	95	88	100	7
3/8 in (9.5 mm)	26	65	100	100	100	100	100	89	89	82	96	7
#4 (4.75 mm)	3	22	45	93	96	98	100	67	67	60	74	7
#8 (2.36 mm)	2	5	8	66	74	87	100	44	44	39	49	5
#16 (1.18 mm)	2	3	3	40	50	70	100	31	31	27	35	4
#30 (.600 mm)	2	2	1	21	35	46	100	20	20	16	24	4
#50 (.300 mm)	2	2	1	10	27	17	100	12	12	8	16	4
#100 (.150 mm)	2	2	1	5	22	2	100	8	8	5	11	3
#200 (.075 mm)	1.0	1.8	0.6	3.3	18.4	0.3	100.0	6.1	6.1	4.1	8.1	2
AC Content %								5.4	5.4	5.0	5.8	0.4
Asphalt Additive, Anti-Strip %								0.4				

Mix temperature @ discharge from mixer: 325 (163) ± 20 °F (± 10 °C) **Required**
 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	88.9	85.5 - 90.5
Ndes	65		96.0

Tests on Aggregates	Required	Units
Durability Index	40	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	10	max. %
Fractured Faces	100/100	95/90 min. %
Insoluble Residue	40.8	40 min. %
LA Abrasion	32	40 max. %
Micro-Deval	20.8	N/A %
Permeability	9.3	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	86	45 min. %
IOC	0.24	%
Gse	2.640	
Gsb	2.593	
Specimen Weight	4725	g

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	% Density		% VMA	% VMA Required	% VFA
			of Gmm	% Density Required			
5.0	2.324	2.443	95.1	Design / Field	14.9	Design / Field	67.1
5.5	2.336	2.425	96.3	96.0 / 94.5 - 97.4	14.9	14.5 / 14.0	75.2
6.0	2.359	2.407	98.0		14.5		86.2

Dust Prop.
 1.4 **Dust Prop. Req.**
 1.3 0.6 - 1.6
 1.2

ITS (PSI) 89.7 N/A min.
TSR 0.80 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 106.8 @ 5.4 % Asphalt Cement

Hamburg Rut Test Depth (mm) 2.62 12.50 max. @ 15,000 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: 6/14/2013
 (mm/dd/yyyy)