



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)
 Venture Corporation P/S # m00719
 (Producer/Supplier Name and Producer/Supplier Code)
 Venture Corporation #5- Portable PLANT ID # m00719-01
 (Plant Name and Plant ID)

Insoluble - Recycled ID: I2
 (Design Type and Design Type ID)
 WS4qc0411800400
 (Mix ID)

Aggregate	Producer/Supplier	% USED
3/8" Chips	Martin-Marietta (Mill Creek, OK) P/S # m002303502	10
Man. Sand	Martin-Marietta (Mill Creek, OK) P/S # m002303502	15
Man. Sand	Martin Marietta Mill Creek Limestone P/S # m005253504	20
Sand (Unlisted Source)	Larry Hutchinson Sand	10
5/8" Chips	Martin-Marietta (Mill Creek, OK) P/S # m002303502	20
Fine R.A.P.	Contractor / Project Site P/S # Contractor	25

Warm Mix Asphalt (WMA) Technology	EVOTHERM (Chem. Add.) qual028 Ingevity m00941 (Product Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)
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 64-22 OK, acem003, Coastal Energy (Clinton, OK), m01042 (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-			
	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Martin Marietta Mill Creek Limestone P/S # m005253504	Larry Hutchinson Sand	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Contractor / Project Site P/S # Contractor			JMF	Min.	Max.	% Tol. (±)
3/4 in (19 mm)	100	100	100	100	100	100	100	100	100	100	100	0
1/2 in (12.5 mm)	100	100	100	100	77	98	95	95	88	100	100	7
3/8 in (9.5 mm)	95	100	100	100	42	95	87	87	80	94	94	7
#4 (4.75 mm)	35	99	100	100	9	70	68	68	61	75	75	7
#8 (2.36 mm)	9	82	84	100	3	49	53	53	48	58	58	5
#16 (1.18 mm)	5	56	62	100	2	36	41	41	37	45	45	4
#30 (.600 mm)	3	35	46	94	2	27	31	31	27	35	35	4
#50 (.300 mm)	3	16	29	54	1	20	19	19	15	23	23	4
#100 (.150 mm)	2	8	15	13	1	14	9	9	6	12	12	3
#200 (.075 mm)	1.5	5.1	5.4	3.7	0.6	10.1	5.0	5.0	3.0	7.0	7.0	2
AC Content %						6.0	5.7	5.7	5.3	6.1	6.1	0.4
Asphalt Additive, Anti-Strip %							0.5					
Warm Mix Asphalt (WMA) Additive %							0.3					

Mix temperature @ discharge from mixer: 275 (135) ± 20 °F (± 10 °C)
 Optimum roadway compaction temperature: 230 (110)
 Laboratory mixing temperature: 275 (135)
 Laboratory compaction temperature: 265 (129)

Tests on Asphalt Cement	Found
Specific Gravity @ 77 °F	1.0100

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	% Density		
	# Gyr.	of Gmm	% Density Required
Nini	6	90.2	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates	Required	Units
Contabro	N/A	%
Durability Index	90	40 min. %
F.A.A. %U	N/A	%
Flat and Elongated	0	10 max. %
Fractured Faces	100/100	85/80 min. %
Insoluble Residue	66.8	30 min. %
LA Abrasion	31	40 max. %
Micro-Deval	12.6	N/A %
Permeability	10.2	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	74	40 min. %
Pba	0.12	
IOC	0.19	%
Gse	2.704	
Gsb	2.695	
Specimen Weight	4800	g

Tests on Compressed Mixtures							
%AC	% Density			% VMA	% VMA Required	% VFA	% VFA Required
	Gmb	Gmm	of Gmm				
5.2	2.350	2.487	94.5	Design / Field	17.3	Design / Field	68.2
5.7	2.368	2.468	95.9	96.0 / 94.5 - 97.4	17.1	14.5 / 14.0	76.0
6.2	2.375	2.449	97.0		17.3		82.7

Dust Prop. 1.0, 0.9, 0.8
 Dust Prop. Reg. 0.6 - 1.6
 ITS (PSI) 127.4 N/A min.
 TSR 0.85 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 108.6 @ 5.7 % Asphalt Cement
 4.2 % New Asphalt Cement
 Hamburg Rut Test Depth (mm) 1.44 12.50 max. @ 10,000 cycles

MEETS SPECIFICATION REQUIREMENTS PER SPECIAL PROVISION 708-26(a-f) 09
 Comments: _____

Last Modified By: Smith, Jerry D. jsmith Date: 7/10/2018
 (User Name and User ID) (mm/dd/yyyy)