



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)

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

Venture Corporation P/S # m00719
 (Producer/Supplier Name and Producer/Supplier Code)

WS4qc0411800500
 (Mix ID)

Venture Corporation #5- Portable PLANT ID # m00719-01
 (Plant Name and Plant ID)

Aggregate	Producer/Supplier	% USED
3/8" Chips	Martin-Marietta (Mill Creek, OK) P/S # m002303502	10
Man. Sand	Martin Marietta Mill Creek Limestone P/S # m005253504	30
Sand (Unlisted Source)	Larry Hutchinson Sand	15
5/8" Chips	Martin-Marietta (Mill Creek, OK) P/S # m002303502	20
Scrns.	Martin-Marietta (Mill Creek, OK) P/S # m002303502	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.	% Tol. (±)			
	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	Martin-Marietta (Mill Creek, OK) P/S # m002303502			JMF	Min.	Max.	
3/4 in (19 mm)	100	100	100	100	100	100	100	100	100	100	0
1/2 in (12.5 mm)	100	100	100	77	100	95	95	88	100	100	7
3/8 in (9.5 mm)	95	100	100	42	100	88	88	81	95	100	7
#4 (4.75 mm)	35	100	100	9	85	72	72	65	79	100	7
#8 (2.36 mm)	9	84	100	3	59	56	56	51	61	100	5
#16 (1.18 mm)	5	62	100	2	38	44	44	40	48	100	4
#30 (.600 mm)	3	46	94	2	25	35	35	31	39	100	4
#50 (.300 mm)	3	29	54	1	17	22	22	18	26	100	4
#100 (.150 mm)	2	15	13	1	11	10	10	7	13	100	3
#200 (.075 mm)	1.5	5.4	3.7	0.6	8.0	4.4	4.4	2.4	6.4	100	2
AC Content %							5.6	5.6	5.2	6.0	0.4
Asphalt Additive, Anti-Strip %							0.5				
Warm Mix Asphalt (WMA) Additive %							0.3				

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

°F (°C) Required
 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 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	88.8	30 min. %
LA Abrasion	31	40 max. %
Micro-Deval	12.6	N/A %
Permeability	11.5	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	75	40 min. %
Pba	0.13	
IOC	0.20	%
Gse	2.690	
Gsb	2.681	
Specimen Weight	4800	g

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

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Tests on Compressed Mixtures (@ Design AC)			
	% Density		
	# Gyr.	of Gmm	% Density Required
Nini	6	88.8	85.5 - 91.5
Ndes	50		96.0

Tests on Compressed Mixtures							
	% Density			% VMA	% VMA Required	% VFA	% VFA Required
%AC	Gmb	Gmm	of Gmm	Design / Field	Design / Field	Design / Field	Design / Field
5.1	2.344	2.480	94.5	17.0	14.5 / 14.0	67.6	72 - 77
5.6	2.351	2.461	95.5	17.2	14.5 / 14.0	73.8	72 - 77
6.1	2.376	2.442	97.3	16.8		83.9	

Dust Prop. 0.9, 0.8, 0.7
 Dust Prop. Reg. 0.6 - 1.6
 ITS (PSI) 112.8 N/A min.
 TSR 0.90 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 108.3 @ 5.6 % Asphalt Cement
 Hamburg Rut Test Depth (mm) 1.14 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
 (User Name and User ID)

Date: 7/10/2018
 (mm/dd/yyyy)