



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

Insoluble ID: I1  
 (Design Type and Design Type ID)  
 WS4qc0411701001  
 (Mix ID)

Aggregate	Producer/Supplier	% USED
5/8" Chips	Martin-Marietta (Mill Creek, OK) P/S # m002303502	30
'D' Rock	Martin-Marietta (Mill Creek, OK) P/S # m002303502	10
Scrns.	Martin-Marietta (Mill Creek, OK) P/S # m002303502	17
Man. Sand	Martin Marietta Mill Creek Limestone P/S # m005253504	28
Sand (Unlisted Source)	Larry Hutchinson Sand	15
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, OK) P/S # m002303502	Martin-Marietta (Mill Creek, OK) P/S # m002303502	Martin Marietta Mill Creek Limestone P/S # m005253504	Larry Hutchinson Sand			JMF	Min.	Max.			
5/8" Chips													
'D' Rock													
Scrns.													
Man. Sand													
Sand (Unlisted Source)													
3/4 in (19 mm)	100	100	100	100	100	100	100	100	100	100	0		
1/2 in (12.5 mm)	73	100	100	100	100	92	92	85	99	7			
3/8 in (9.5 mm)	43	92	100	100	100	82	82	75	89	7			
#4 (4.75 mm)	4	33	86	100	100	62	62	55	69	7			
#8 (2.36 mm)	3	4	62	95	100	53	53	48	58	5			
#16 (1.18 mm)	2	3	42	55	100	38	40	36	44	4	x		
#30 (.600 mm)	1	3	30	33	96	29	34	30	38	4	x		
#50 (.300 mm)	1	2	19	14	60	17	22	18	26	4	x		
#100 (.150 mm)	1	2	13	9	16	8	12	9	15	3	x		
#200 (.075 mm)	1.0	1.5	8.5	5.0	5.0	4.0	4.0	2.0	6.0	2	x		
AC Content %						5.5	5.7	5.3	6.1	0.4	x		
Asphalt Additive, Anti-Strip %						0.5							
Warm Mix Asphalt (WMA) Additive %						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: 265 (129) ± 20 °F (± 10 °C)  
 Optimum roadway compaction temperature: 230 (110)  
 Laboratory mixing temperature: 275 (135)  
 Laboratory compaction temperature: 260 (127)

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

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	% Density		
	# Gyr.	of Gmm	% Density Required
Nini	6	89.7	85.5 - 91.5
Ndes	50		96.0

Tests on Aggregates	Required	Units
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	96.1	30 min. %
LA Abrasion	31	40 max. %
Micro-Deval	12.6	N/A %
Permeability	11.2	12.5 max. 10 <sup>-5</sup> cm/s
Sand Equivalent	82	40 min. %
Pba	0.15	
IOC	0.04	%
Gse	2.691	
Gsb	2.680	
Specimen Weight	4750	g

Tests on Compressed Mixtures							
%AC	Gmb	Gmm	% Density		% VMA	% VMA Required	% VFA
			of Gmm	% Density Required			
5.0	2.339	2.484	94.2	Design / Field	17.1	Design / Field	66.1
5.5	2.349	2.465	95.3	96.0 / 94.5 - 97.4	17.2	14.5 / 14.0	72.7
6.0	2.362	2.447	96.5		17.2		79.7

ITS (PSI) 85.2 N/A min.  
 TSR 0.81 0.80 / 0.75 min. (Design / Field)  
 Compacted Wt. (lbs/sy/1" thick) = 108.1 @ 5.5 % Asphalt Cement

x 1st JMF Revision

Hamburg Rut Test Depth (mm) 2.15 12.50 max. @ 10,000 cycles

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

Comments: Revised JMF by Contractor: Effective 12/11/2017

Last Modified By: Suitor, Kevin ksutor  
 (User Name and User ID)

Date: 12/11/2017  
 (mm/dd/yyyy)