



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)
 WS4qc0411800200
 (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	13
Man. Sand	Martin Marietta Mill Creek Limestone P/S # m005253504	32
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, Valero (Halstead, KS), m00964 (Material Full Name, Material Code, Producer/Supplier Name, Producer/Supplier Code)		

Sieve Size	Producer/Supplier:					Sand (Unlisted Source)	Comb. Agg.	%			Tol. (±)
	5/8" Chips	D' Rock	Scrns.	Man. Sand	Larry Hutchinson Sand			JMF	Min.	Max.	
3/4 in (19 mm)	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	63	63	56	70	7	
#8 (2.36 mm)	3	4	62	95	100	55	55	50	60	5	
#16 (1.18 mm)	2	3	42	55	100	39	39	35	43	4	
#30 (.600 mm)	1	3	33	37	96	31	31	27	35	4	
#50 (.300 mm)	1	2	22	18	71	20	20	16	24	4	
#100 (.150 mm)	1	2	13	11	22	9	9	6	12	3	
#200 (.075 mm)	1.0	1.5	8.5	5.0	5.0	3.9	3.9	1.9	5.9	2	
AC Content %						5.8	5.8	5.4	6.2	0.4	
Asphalt Additive, Anti-Strip %						0.5					
Warm Mix Asphalt (WMA) Additive %						0.4					

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

Mix temperature @ discharge from mixer: 275 (135) °F (°C) **Required** ± 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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Tests on Compressed Mixtures (@ Design AC)			
	% Density		
	# Gyr.	of Gmm	% Density Required
Nini	6	89.6	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	97	30 min. %
LA Abrasion	31	40 max. %
Micro-Deval	12.6	N/A %
Permeability	10.6	12.5 max. 10 ⁻⁵ cm/s
Sand Equivalent	83	40 min. %
Pba	0.11	
IOC	0.05	%
Gse	2.689	
Gsb	2.681	
Specimen Weight	4750	g

Tests on Compressed Mixtures							
%AC	% Density		% VMA	% VMA Required	% VFA	% VFA Required	
	Gmb	Gmm					
5.0	2.339	2.483	94.2	Design / Field	17.1	Design / Field	66.1
5.5	2.349	2.464	95.3	96.0 / 94.5 - 97.4	17.2	14.5 / 14.0	72.7
6.0	2.362	2.445	96.6		17.2		80.2

Dust Prop.
 0.8 **Dust Prop. Req.** 0.6 - 1.6
 0.7
 0.7

ITS (PSI) 121.6 N/A min.
TSR 0.84 0.80 / 0.75 min. (Design / Field)
 Compacted Wt. (lbs/sy/1" thick) = 107.9 @ 5.8 % Asphalt Cement

Hamburg Rut Test Depth (mm) 1.53 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: 2/13/2018
 (mm/dd/yyyy)